



Wayne H. Jens  
Vice President  
Nuclear Operations

2000 Second Avenue  
Detroit, Michigan 48226  
(313) 586-4150

February 6, 1984  
EF2-67,208

Mr. R. L. Spessard, Director  
Division of Engineering  
U.S. Nuclear Regulatory Commission  
Region III  
799 Roosevelt Road  
Glen Ellyn, Illinois 60137

Dear Mr. Spessard:

Reference: Enrico Fermi Atomic Power Plant, Unit 2  
NRC Docket No. 50-341

Subject: Improvements to Preoperational Test Program

In your letter of October 21, 1983 transmitting Inspection Report No. 50-341/83-21, you requested Detroit Edison to provide a description of actions taken to improve the quality of the conduct of the preoperational test program at Enrico Fermi Unit 2. A summary is provided below of the more recent actions taken to improve the quality of the preoperational test program. The summary addresses the four specific areas of concern as they were related to Detroit Edison in recent meetings with your staff. In addition, all actions taken since January 1982 to improve the preoperational testing program are delineated in the attachment.

#### Testing Coordination

Early in 1982, Detroit Edison established the Activities Coordination Team (ACT) to coordinate construction and testing activities with Nuclear Operations. This organization provided an interface for the coordination and processing of maintenance and work orders (PN-21's). Recently, the Joint Test Group (JTG) was formed to strengthen the test coordination effort. The Assistant Superintendent-Startup is chairman of the JTG with the Startup Director serving as Assistant Chairman. The JTG meets once a day to coordinate activities, resolve conflicts, and to determine the status of equipment, system operations and testing. In addition, the JTG prepares and issues a Plan of the Day (POD) to provide a listing of activities and their duration, identify operations support required, etc., for the following 24-hour period. The JTG Shift Test Engineers and the Assistant Shift Supervisor are assigned to coordinate, direct and provide the interface between organizations to ensure that all work, maintenance, testing and other related activities proceed, and that conflicts are resolved. Startup Instruction 8.5.0.01,

9402220438 940215  
PDR ADOCK 03000341  
PDR  
G

FEB 10 1984

Mr. R. L. Spessard  
February 6, 1984  
EF2-67,208  
Page 2

"Joint Test Group," provides details of the functions and responsibilities of the JTG.

In addition, to assure design changes don't invalidate the test program, the Startup Organization has initiated an ongoing review of design changes to assure that design changes are reviewed and a determination is made as to the effect on system testing. The program is described in S.I. 4.7.1.02, "Design Change Document Review Within Startup." The System Completion Organization has also written and revised Configuration Control procedures to establish a means of tracking design change documents issued by Document Control to provide an up-to-date status of change documents.

A related topic concerns temporary modifications to systems. Temporary modifications are used to perform certain evolutions to a system prior to, during, and in special cases, after testing is completed. These modifications are now controlled by Nuclear Operations in accordance with POM Procedure 12.000.25T, "Interim Temporary Modification." This procedure places the responsibility of control of temporary modifications with the Nuclear Shift Supervisor and provides continuity for overall plant operations and testing.

Finally, QA/QC support during the conduct of pre-operational tests has been improved by reassigning QC inspectors to shifts to provide 24 hour coverage of preoperational testing. This ensures that inspectors are always available to witness testing and designated hold points. In addition to witnessing tests, the QC inspectors are also available to conduct surveillances relative to the test underway.

#### Control of FSAR Commitments and Acceptance Criteria

Procedure changes have been implemented to provide additional assurance that design parameters, testing requirements and acceptance criteria are correctly described in the FSAR and that preoperational test results comply with the appropriate information from the FSAR. These changes include a better definition of responsibilities of the various engineering organizations involved in the review, and the development of checklists to provide a more consistent and thorough review.

Mr. R. L. Spessard  
February 6, 1984  
EF2-67,208  
Page 3

Some of the more important checklist items that the reviewers are required to verify include:

For Test Procedures

1. Test objectives are stated.
2. Test boundaries are defined.
3. FSAR and other licensing document commitments are included in the test.
4. Acceptance criteria and basis are stated.
5. Parameters required for test results review are specified, including acceptable tolerances, are measured and recorded.

For Test Result Packages

1. Test results are in compliance with the FSAR including the requirement to:
  - a. Document the applicable FSAR sections reviewed and provide a summary statement for each section reviewed that addresses pertinent result parameters.
  - b. For results not in compliance with the FSAR criteria, but are acceptable, document the rationale for technical acceptability and how the FSAR will be revised or otherwise addressed.
  - c. For results not in compliance with FSAR criteria, and are not acceptable, document the system and/or equipment changes required before approval of test results can be permitted.
  - d. For parameters that are in the FSAR, but are not testable or not intended to be tested, the reviewer may provide an explanation in the results approval memo.

Mr. R. L. Spessard  
February 6, 1984  
EF2-67,208  
Page 4

2. Test changes, exceptions and deviations are dispositioned properly and that test changes did not change the intent of the procedure relative to the test results.

Comments made to preoperational test procedures and the disposition of the comments are documented on Comment Control Forms. These forms are retained for historical purposes.

Comments made to the test results package are documented in an addendum to the Test Analysis Report after all comments have been dispositioned. The test results package is then sent to the Technical Review Committee for their review and approval.

#### SYSTEM COMPLETION CONTROLS

Detroit Edison recognizes the importance of maintaining system cleanliness and the unique problems posed by conducting construction and rework activities around completed systems. In the past year, several procedure changes have been made to address the issue of maintaining system cleanliness.

Plant Operations Manual (POM) procedures have been revised to incorporate good housekeeping practices when opening pressure boundaries for maintenance or rework in order to preclude intrusion of foreign materials. Closure of the system requires an inspection and is designated a QA hold point. The Project Procedure Manual (PPM) is currently being revised to incorporate a similar requirement. The PPM procedure will require compliance of all site construction contractors.

Procedures in the POM and PPM had been issued in 1982 and 1983, which require maintaining cleanliness of work and storage areas; segregated storage and identification of materials; and tagging, segregation and dispositioning of nonconforming items. In addition, a new PPM procedure which will be issued soon, requires end protection on open systems and surveillance coordinators to monitor areas for compliance to the above procedure.



Mr. R. L. Spessard  
February 6, 1984  
EF2-67,208  
Page 5

#### Management Controls of Test Procedures and Results

As previously stated, an improvement in the delineation of responsibility for test procedure preparation and review has been implemented as described in Startup Instruction S.I. 8.4.2.01, "PREOP/ACPT Procedure Preparation."

Improvements have also been made regarding the control of changes to test procedures. Changes to test procedures fall into two categories: minor and major. Minor changes cannot alter prerequisites, test boundaries, plant conditions, precautions or acceptance criteria. Approval of minor Test Change Notices (TCN) requires approval of the Nuclear Shift Supervisor prior to implementing the change and continuing testing. Major TCNs will necessitate stopping the test until the change has been reviewed and approved by the reviewers that originally reviewed and approved the test procedure. A recent change allows the Joint Test Group Shift Engineer and Nuclear Shift Supervisor to provide interim approval of major TCNs followed by review by those reviewers that originally reviewed and approved the test procedure. The interim approval of a major TCN must be reviewed and approved by the minimum reviewers as specified in the Startup Manual, within 14 calendar days. If any of the reviewers disapprove the major test change, testing will be halted and an evaluation will be made to resolve the problem and retesting will be performed as determined by the Technical Review Committee (TRC).

Changes to procedures are delineated in S.I. 4.5.1.01, "Administrative Controls of Startup Originated Procedures and Test Changes Notices," which was revised to allow for page replacement when it was found that the review and performance of test procedure changes was difficult when the TCNs were physically separate from the main body of the procedure. Review of the TCNs was enhanced at the same time by issuance of Startup letter SU-11,941, which provides guidance and training in the review of TCNs.

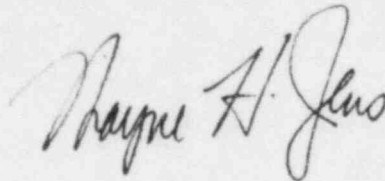
Several changes have occurred in the review of test result packages, the details of which are contained in S.I. 8.4.2.05, "Test Results Package Preparation/Review."

Mr. R. L. Spessard  
February 6, 1984  
EF2-67,208  
Page 6

To summarize, this instruction provides guidance not only in the preparation of the package but most importantly, the review of the test results. Upon completion of testing, a test analysis report is written and the test results package assembled. Copies are sent to all organizations for their review and comments. After the review has been conducted, a meeting is held to discuss and resolve comments. When all comments are resolved, an addendum to the test analysis report is issued to provide assurance that all comments have been dispositioned. The test results package is then sent to the Technical Review Committee for approval.

Detroit Edison believes these changes and others discussed in the attachment have made the necessary improvements in the quality of the conduct of preoperational testing. We believe this satisfies the request for a supplemental response made in your letter of December 9, 1983. Detroit Edison would be pleased to meet with representatives from your office, either here or in Glen Ellyn, to discuss our efforts to ensure the quality of the preoperational testing program.

Sincerely,

A handwritten signature in dark ink, appearing to read "Wayne A. Jones". The signature is fluid and cursive, with the first name "Wayne" and last name "Jones" clearly distinguishable.

cc: P. M. Byron  
R. C. DeYoung  
J. E. Konklin

Detroit  
Edison

W<sup>2</sup> CR  
Nuclear

Date: December 27, 1983  
SU - 12,553

To: E. H. Newton - Supervisor  
Construction Quality Assurance

From: F. E. Agosti *F. Agosti*  
Manager - Startup Testing **Field Quality Assurance**

Subject: NRC Inspection Report 50-341/83-21 (DE)  
Response of Actions Taken to Improve the Quality  
of the Preoperational Test Program

**RECEIVED**  
JAN 06 1983

In response to subject NRC inspection report, the Manager - Startup Testing initiated a program to review procedures that were changed subsequent to January 1, 1982. The review was conducted to determine how these changes improved the Fermi II Preoperational Test Program.

Startup, Startup Engineering Assistance, System Completion, Nuclear Operations, Operational Assurance and Nuclear Administration Organizations' procedures were reviewed with the results attached for your information.

*J*  
MEH/jab

Attachment

cc: L. Bregni  
W. Miller  
T. Mintun  
T. Nickelson  
G. Trahey  
D. Wells  
ARMS  
File 11.4.4  
SUA File

Date: December 9, 1983  
SU - 12,437

To: F. E. Agosti  
Manager - Startup Testing

From: R. L. Boyles *RLB*  
Performance Evaluator

Subject: Administrative Procedure Review

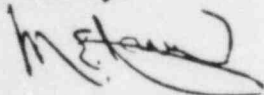
Startup letter SU - 12,096, (copy attached) requested specific organizations to initiate a review of their administrative procedures to determine what changes were made to improve the Fermi 2 Test Program.

Attached, please find the results of each organization's review.

Attachment

RLB/jab

Noted by:



M. E. Haver  
Startup Assurance Engineer

cc: W. F. Colbert  
W. J. Fahrner  
W. R. Holland  
W. H. Jens  
T. L. Mintun  
T. S. Nickelson  
S. H. Noetzel  
J. L. Piana  
R. A. Vance  
ARMS  
File 10.2.4



NOV 1 1983

Detroit  
Edison

DATE: October 28, 1983  
SU-12,096

TO: M. J. Gavin  
C. R. Gelletly  
~~A. Godoshien~~  
R. S. Lenart  
~~W. E. Miller~~

FROM: F. E. Agosti *F. Agosti*  
Manager-Startup Testing

SUBJECT: Administrative Procedure Review

The recent NRC Region III Exit meetings have identified certain deficiencies in the EF2 Project test program. These deficiencies are not limited to Startup only but also include organizations interfacing with Startup through the test program. The program deficiencies include but are not limited to such items as test criteria, test performance, data collection, procedure review, configuration control, test control, test results review, test approval, objective evidence of actions taken, supporting procedural documents and etc. Startup has initiated a review for the period January, 1982 to-date to determine what procedure changes have been made to improve the test program.

I request that you initiate a similar review of the administrative procedures and documents for your respective organization as they may impact to the EF2 test program. I further request that you document this review and provide me with a copy of your findings. Specifically, Startup would like to know those procedure changes that were made to assure an improved test program.

May I please have your response by November 11, 1983. If you have any questions please advise me accordingly.

FEA:TSN:cbc *J. Ah*

cc: W. F. Colbert  
W. J. Fahrner  
W. H. Jens  
W. R. Holland  
S. H. Noetzel  
J. L. Piana  
R. A. Vance  
ARMS  
File 10.2.4

Date: November 10, 1983  
SU - 12,179

To: T. S. Nickelson  
Startup Engineer

From: M. E. Haver *R2B*  
Startup Assurance Engineer

Subject: Review of Startup Administrative Procedures.

In accordance with Startup Letter 12,019 a review was conducted of Startup Administrative procedures.

For the purpose of this review the Startup Instructions have been subdivided into two categories, testing related and non-testing related. Please note that measuring and test equipment (M&TE) Startup Instructions were not evaluated since these particular Startup Instructions only provide guidance for the proper use of M&TE.

The review is documented as follows:

- A. Startup Manual
- B. Testing related Startup Instructions
- C. Non-Testing related Startup Instructions

Also note the review of the Startup Manual was started with Revision 16, approved on January 15, 1983 at which time the Startup Manual was completely rewritten and reissued. The review consists of a brief description of all changes, since Revision 16, that relate to testing or the test program.

Attachment

*R2B*  
RLB/jab

cc: F. E. Agoati  
T. L. Mintun  
J. J. Adams  
R. W. Gaston  
J. Bross  
ARMS  
File 10.7

## A1. Startup Manual

### Revision 17     March 22, 1982

- The STE and SCE will update the Electrical portion of the MIL 30 days prior to the turnover (transfer) of the system to SCO..
- Deleted Configuration Control from the Startup organization.
- Made mandatory a review by Operational Assurance of QA-1 CAIO test procedure.
- Added Quality Assurance section (Section 10) to the Startup Manual.
- Revised to allow approval of minor changes (TCN) to CAIO procedures by approval of the LSTE or, in his absence, the NSS. Change to PRET procedures (minor) must be approved by the NSS.
- Clarified members of the TRC necessary to approve test procedures, releases, results, etc.
- Added that all modifications, repair/rework and testing in the Control Center area, Control Room, Relay Room, Cable Spreading Room and Computer Room will be the responsibility of the Startup Control Center Group.

### Revision 18     June 3, 1982

- Removed use of 'Type A' turnovers.
- Revised the use of Test Change Notices and the method of implementing them. Changed the definition of Major and Minor Test Change Notices.
- Allowed for minimum review of test procedures.
- With Startup Engineer/Director's permission, allowed for omission of Final Draft (yellow) review.

### Revision 19     August 31, 1982

- Revised to ensure trial runs are documented and data is retained, as is final test data.
- Added Assistant Superintendent - Nuclear Production to TRC.
- Add Structural Inspections to construction test activities.
- Removed reference to RRR's.
- Defined types of Startup Procedure Status Listing.
- Included use/reference to flow charts for procedure approval.
- Amplified approvals required for various types of procedures.
- Added two additional members to OSRO and STP procedure review.

Revision 19      August 31, 1982 (con't)

- Revised to allow for partial preoperational testing of a system.
- Added requirement to ensure availability of test procedures for NRC review 30 days prior to performance of test.

Revision 20      October 5, 1982

- Added clarification to ensure PRET/ACPT are forwarded to Operational Assurance for assignment of witness/hold points.
- Added requirement that the STE check that no NRC commitments are omitted when a TCN is implemented.
- Redefined inspections/memorandums issued by Field Hanger Engineering Group.

Revision 21      December 14, 1982

- Deleted the requirement for an STPE to be designated for performance of each Startup Test Phase procedure.
- Clarified OSRO review of Startup Test Phase procedures.
- Substituted SRO for NSS approval of temporary changes to Startup Test Phase procedures.
- Made the STP procedure format a recommendation instead of a requirement.
- Added requirement that only controlled copies of procedures will be used during Startup Test Phase.
- Added requirement to document skipping of steps in a STP procedure by using a test exception.
- Defined that when the TRC approves PRET test release, it is also approving the CAIO test results.
- Defined that when the TRC approves PRET test results, it is also approving CAIO test results performed during PRET.

Revision 22      April 12, 1983

- Requires a revision to a procedure, vice a TCN, when a procedure has not been released for performance.
- Removed statement that TCN's are to be small in number.
- Added restriction that TCN's are not to be issued against Generic Test Procedures.



Revision 22      April 12, 1983 (con't)

- Removed use of START/STOP forms and added Supplemental Test Forms.
- Revised Generic Test procedure section to incorporate use of I&C procedures.
- Added Preventative Maintenance - Electrical section in that STE will test using a Maintenance Instruction.

Revision 23      September 6, 1983

- Revised to incorporate use of POM procedure 12.000.25T for Temporary Modifications.
- Revised requirements so that test equipment will be controlled within the responsible organization.
- Revised to ensure cleanliness control is maintained during work not requiring a PLC.
- Revised to ensure only TCN's are used for procedure changes after a test has been released for performance (excluding Generic CAIO's).

Revision 24I      November 14, 1983

- Revised to eliminate need for an FMR if a FDDR is issued for warranty replacement/rework.
- Revised to describe how test results will be corrected if errors are discovered after test results are approved.
- Revised to allow release for performance of a STP procedure by the Lead Startup Test Phase Engineer.
- Revised to include implementation of the Joint Test Group.
- Revised to update the manner in which Startup testing is scheduled.
- Removed statement concerning any future use of the RRR.
- Designated the Assistant to the Startup Director as the alternate for the Startup Director on the TRC; in place of the Administrative Engineer-Startup.

T. S. Nickelson  
November 10, 1983  
SU - 12, 179  
Page 4

- A2. The second part of the Startup Manual (SUM) Review was to evaluate whether or not the SUM truly reflects how Startup is doing business now, from procedure preparation through approval of test results. Startup Assurance's evaluation is that upon approval of revision 24 to the SUM, the SUM will reflect the way Startup is doing business, from procedure preparation through approval of test results.

**B. Testing Related Startup Instructions**

**4.1.0.01 System Boundary Packages**

1. Cancelled 9-20-82; System Completion Organization assumed control of boundary identification packages.

**4.2.0.01 Material Identification List**

1. No changes occurred subsequent to January 1, 1982.

**4.5.1.01 Administrative Controls of Startup Originated Procedures and Test Change Notices**

1. Revision 0, 4-18-82; S.I. 4.5.0.01 was developed to delineate a format for review, approval and distribution of generic, specific, flushing, preoperational and acceptance test procedures and test change notices.
2. Revision 1, 6-3-82
  - a. Incorporated S.I. 8.3.3.01 (major/minor test change notices (TCN)) into this Startup Instruction.
  - b. Established a format for implementing changes to procedure numbers and titles, and provided a means by which to cancel procedures.
  - c. Specified the difference between major and minor TCN's.
  - d. Addresses the use of "minimum reviewers" for expediting the review of Startup originated procedure revisions/changes.
  - e. Added the requirement for stopping testing when a major TCN is initiated until the major TCN is reviewed by the "minimum reviewers".
3. Revision 2, 8-3-82; Revision 2 was basically administrative changes, reordering steps for better flow, and renumbering forms to minimize confusion.
4. Revision 3, 1-13-83
  - a. Added requirements for generic CAIO procedures to become effective on the day of approval, but, testing in progress may continue as long as the new revision does not affect previous testing. Five working days after approval of all procedure revisions a new revision must be used for initiating testing.

- b. Required that changes to generic procedures will be by revision only.
  - c. Pen and ink changes to specific, flushing, acceptance and preoperational test procedures can be implemented via a TCN.
5. Revision 4, 5-27-83; all Generic CAIO testing started subsequent to procedure approval must use a new revision.
6. Revision 5, 9-26-83
- a. A process was added to alter steps in an acceptance or preoperational test, which reflected the use of system operating procedures.
  - b. Directions were included for "marking up" the master copy of the system operating procedure located in the Control Room. At the finish of testing the "marked up" copy of the system operating procedure would be revised to include the comments.

4.7.0.01 PN-21 Flow Sequence

- 1. Revision 5, 2-12-82; changed to incorporate SCO into the administrative flow path.
- 2. Revision 6, 4-10-82; incorporated Operations Clerk for entry of PN-21's to PN-21 list.
- 3. Revision 7, 10-6-82
  - a. Removed references to RRR's.
  - b. Added procedure for voiding of PN-21's.
  - c. Revised PN-21 form.
- 4. Revision 8, 1-6-83
  - a. Incorporated Intergrated Work Authorization procedure (for work which overlaps jurisdiction of Fermi I NSS).
  - b. Incorporated references for processing Civil PN-21's.
  - c. Incorporated use of retest required stamp for PN-21's.
  - d. Added requirements to circle "Operating" or "Maintenance" on PN-21's.



5. Revision 9, 3-21-83

- a. Redistributed previous responsibilities of the Startup Log Clerk and section secretaries.

6. Revision 10, 4-15-83

- a. Incorporated method for processing Electrical Preventative Maintenance PN-21's.

7. Revision 11, 11-2-83; incorporated change in the administrative flow path of PN-21's.

4.7.1.01 Data Collection for Diagnostic Purposes

1. Revision 0, 1-13-83; established a process of collecting data for purposes other than verification of system performance.
2. Revision 1, 7-19-83; added the allowance for use of MDL's in conjunction with diagnostic data collection.
3. Revision 2, 10-21-83; ensures a more formal review of Sequence of Events.

4.7.1.02 Design Change Document Review within Startup

1. Revision 0, 5-5-83
  - a. Ensure proper retesting of design changes by evaluating all design change documents for impact on previous testing.
  - b. Provide a means to ensure configuration control is maintained in Startup regarding design change documents.

4.7.2.01 Temporary Modifications of Equipment

1. Revision 4, 1-21-82; added requirements for temporary storage conditions and proper identification of removed equipment.
2. Revision 5, 4-20-82; included the requirement to tag control devices of equipment affected by modifications and their effect on the Plant.
3. Revision 6, 11-30-82; provided clarification of instructions and changed the process of logging for temporary modifications.
4. Revision 7, 12-9-82; added the requirement to state the reason for modification on the Temporary Modification Request Form.

5. Revision 8, 1-17-83

- a. Allow Technicians and I&C shop personnel to sign verifying placement of tags.
- b. Added approval process for temporary modifications made after preoperational or acceptance test release for performance.

6. Cancelled 8-24-83; instructions for temporary modifications are contained in administrative procedure 12.000.25T.

4.7.3.01 Control and Storage of Electrical Measuring and Test Equipment

1. Revision 2, 3-8-82; added "red line notice". A process for evaluating post test calibration failures for impact on previous testing.
2. Revision 3, 1-13-83; administrative change for clarification of S.I.
3. Revision 4, 7-7-83; minor change to the "red line notice" procedure for determining the extent of impact on previous testing when measuring and test equipment fails a post test. calibration.
4. Revision 5, 10-11-83; administrative change for clarification of S.I. regarding the "red line Notice".

4.7.3.26 Control and Storage of Air Balance Group Measuring and Test Equipment

1. Revision 0, 1-12-82; initiated a procedure to ensure proper control, storage and handling of measuring and test equipment used for air balancing.
2. Revision 1, 1-21-83
  - a. Added "instrument deficiency notice" for evaluating post test calibration failures for impact on previous testing.
  - b. Renumbered and clarified steps.
  - c. Added instrument variation checks to check for differences between two instruments of the same type.
3. Revision 2, 7-5-83; removed instrument variation checks since all instruments are in a calibration program.

4.7.3.27 Electrical Measuring and Test Equipment In-House Performance Checks

1. Revision 1, 2-2-82

- a. Adds provisions so that the instrument being used as a reference does not have to be the same type as the instrument being checked, (i.e. a DMM and calibrated shunt could be used to check an ammeter).
- b. Removed requirement to take a minimum of 3 readings.

2. Revision 2, 7-30-83

- a. Revised Startup Form 4.14 to include the person's name performing the calibration check.
- b. Allow calibration check interval to exceed 6 weeks at the discretion of the measuring and test equipment controller.

4.7.2.02 Control and Handling of Electrical Section Drawings

- 1. Revision 1, 10-26-82; administrative changes in the method for issuing prints.

4.7.4.04 Operation of Startup Document Control Sattelite

- 1. Revision 0, 11-9-82; provide instructions for Document Control Sattelites located within Startup.

4.9.2.01 Verbal Approval of Design Changes

- 1. Revision 1, 7-9-82; removed names of personnel and replaced the names with titles.

4.9.6.01 Startup Field Reports

1. Revision 1, 2-9-82

- a. Allowed SUEA to respond to SFR's in conjunction with Resident Engineering.
- b. Added section to state that SFR's could not be used to change the configuration of a system (a design change document, DCN, DCP, etc. approved for construction would still be required).
- c. Started sending copies of QA-1 SFR's to Operational Assurance vice Project QA with provision for Operational Assurance to forward appropriate PCR's/DDI's to FC/II QA.

2. Revision 2, 8-2-82

- a. Provided method for inputting SFR's to the Type 4 Punchlist.
- b. Add flow charts for SFR's.

3. Revision 3, 10-7-82

- a. Deleted requirement for adding SFR's to the Type 4 Punchlist.
- b. Added requirement to include attachment with all SFR's when forwarding for distribution.

4.11.0.01 Miscellaneous Startup Forms

- 1. Revision 1, 1-28-82; revised to incorporate changes due to formation of SCO.
- 2. Revision 2, 11-15-82
  - a. Added instructions for completion of mechanical 7.8's.
  - b. Moved Startup Form list to Attachment 12.

4.14.0.01 Protection of Safeguards Information

- 1. Revision 0, 11-6-82
  - a. Establish administrative controls to be used for protection of Safeguards Information.

4.19.0.01 Backcharges

- 1. Revision 1, 6-29-83
  - a. Backcharge Request Form modified to require Startup Engineer.
  - b. Also revised to reflect use of PLC vice RRR.

4.20.0.01 Configuration Control - Design Change Documents

- 1. Revision 1, 2-9-82; revised to reflect Rev. 16 of the Startup Manual. S.I. was cancelled on September 20, 1982. Section 4.20 of the Startup Manual was deleted with the transfer of the Configuration Control group from Startup to the System Completion Organization. Configuration Control Group work responsibilities are outlined in the SCO procedures.



4.20.0.02 Cable Pull Cards

1. Revision 1, 12-15-81; S.I. cancelled on 5-18-83. Activities described in this instruction are detailed in other procedures.

5.3.2.01 Activities Coordination Teams

1. Revision 0, 1-28-82; S.I. cancelled on 9-20-82. Activities Coordination Team is no longer a part of Startup.

5.3.2.23 Civil Turnover

1. Revision 0, 10-28-82; define Civil turnover responsibilities.
2. Cancelled 5-13-83; Civil responsibilities no longer part of Startup.

7.3.0.01 Startup Request for Construction Services

1. Revision 1, 1-29-82; revised to include SCO.
2. Revision 2, 6-16-82; included instruction for routing of completed Startup Request for Construction Services form.

7.4.2.02 Configuration Control of Code Related (ASME or ANSI) Piping System

1. Revision 1, 1-29-82; added SCO to routing.
2. Revision 2, 10-1-82; removed references to RRR's.

7.4.3.01 System Electrical Walkdowns

1. Revision 2, 1-27-82; deleted references to Pre/Post Punchlist.

7.4.3.02 System Mechanical Walkdowns

1. Revision 2, 1-28-82; revised to reflect Project reorganization and eliminate the System Punchlist (Post).
2. Revision 3, 8-2-82; revised to ensure construction strainers are punchlisted.

7.4.3.03 Punchlist and the Punchlist Card (PLC)

1. Revision 0, 2-20-8 ; purpose - to discuss the evolution of the system punchlists, the generation of PLC's and the processing of PLC's to achieve work completion.
2. Revision 1, 10-12-82
  - a. Added Type 4 Punchlist
  - b. Added requirement for retest review of Punchlist cards for impact on previous testing.

7.4.3.03 Retest Review Requirement

1. Revision 0, 3-29-83; purpose - to provide instructions for conducting reviews of completed construction and/or maintenance related documents to determine the need for retesting.
2. Revision 1, 1-18-83; revised to ensure proper retest review of MDL's for work which overlaps system boundaries.

7.4.5.02 Equipment Refurbishment and Upgrading

1. Revision 2, 1-29-82; revised to reflect formation of SCO.

7.4.5.03 Administrative Control of the Control Air Dryers Temporary Modifications

1. S.I. cancelled on 4-28-83.

7.4.5.04 Minor Deficiency Log (MDL)

1. Revision 1, 8-31-82
  - a. Required traceability of work and parts for QA-1 work.
2. Revision 2, 10-1-82
  - a. Added requirement to use cable pull card for cable termination revisions.
3. Revision 3, 1-4-83
  - a. Clarified instructions.
4. Revision 4, 4-23-83
  - a. Added Local Leak Rate Team review of MDL's used on containment isolation valves.
5. Revision 5, 7-30-83
  - a. Clarified use of MDL vs. NCR. Added Operational Assurance review of I&C shop work under MDL (QA-1 only).

7.4.6.01 Control Center Traveler Procedure

1. Revision 1, 8-27-82
  - a. General updating, in particular, addresses interfaces with SCO and Operational Assurance.

2. Revision 2, 10-4-82

- a. Added reference for use of Act 21 by SCO to track PN-21's and reference procedure number.

3. Revision 3, 4-14-83

- a. Revised to clarify QA requirements and QA interfaces with the Control Center.

4. Revision 4, 10-3-83

- a. Revised to update QA requirements. Addresses G.E. QA documents.

7.4.6.02 Control Center Material Requisitioning

- 1. No revisions to this procedure made.

7.4.6.03 Control Center Material Purchasing

- 1. No revisions to this procedure made.

7.5.1.01 Equipment Status Identification Devices

1. Revision 1, 1-6-82

- a. Added requirement that the LSTE evaluate recalibration requirements when work is being done on calibrated equipment.

2. Revision 2, 1-19-83

- a. Clarified the use of calibration stickers.

7.6.2.01 Filling out Electrical 7.8 Forms

1. Revision 2, 2-2-83

- a. Revised to reflect Rev. 16 of the Startup Manual.

7.6.4.01 Reporting of Testing Incidents and Experiences

- 1. Revision 2, 3-13-82; clarified Startup Experience Reporting process.

- 2. Revision 3, 7-15-82; incorporated a process to report abnormal events.

3. Revision 4, 1-19-83

- a. Administrative correction for a typographical error.
- b. Updated phone number listing.

4. Revision 5, 1-31-83

- a. Added requirement to record time and date the experience occurred.
- b. Included a process to assign action items.

2. Revision 3, 4-12-83

- a. Revised to outline a method for processing Electrical Preventative Maintenance 7.8's.

7.7.2.01 Electrical Checkout Instructions

1. Revision 1, 1-29-82

- a. Clarified responsibilities.

2. Revision 2, 1-15-83

- a. Incorporated processing of Relay sheets.

3. Revision 3, 4-14-83

- a. Include instructions for processing Electrical Preventative Maintenance 7.8's.

7.7.3.01 Instrument and Control Checkout Instruction

1. Revision 3, 9-17-82

- a. Revised 7.8 flow paths.
- b. Added instructions for adding or deleting items from 7.8's.
- c. Added section for clarification and instructions for QC Witness/Hold points.

2. Revision 4, 3-21-83

- a. Added flow path for specific CALO testing.
- b. Clarified 7.8 requirements for retesting.

3. Revision 5, 10-13-83

- a. Revised to require 7.8 form for PRET/ACPT instrument and loop calibrations.
- b. Specified use of loop calibrations in lieu of individual instrument calibrations when calibrating instruments for use in PRET/ACPT.

7.6.0.01 Control of System Cleanliness

1. Revision 1, 11-16082

- a. Identified responsibilities of the SCO/Bechtel/Maintenance Flushing Coordinator.
- b. Addressed the use of Punchlist cards.
- c. Added reference to POM 71.000.07T - Equipment lay-up and Preservation.

8.1.0.01 Testing Progress Checklist

- 1. Revision 1, 1-21-82; revised to reflect TRC policy regarding Preoperation test release.
- 2. Revision 2, 3-15-82; added requirements for:
  - a. PRET/ACPT release memo from PQA.
  - b. Supportability memo from Engineering.
  - c. Assess NCR's, SFR's, DDR's ect. for impact on PRET/ACPT.
- 3. Revision 3, 7-26-82; added requirement to review CAIO test data for release of PRET.
- 4. Revision 4, 12-21-82
  - a. Outlined a process for reviewing CAIO test data.
  - b. Added process instrument calibration requirements.
- 5. Revision 5
  - a. Clarified explanation of PRET/ACPT exception sheet.
  - b. Incorporated a log to log test exceptions which could impact PRET/ACPT and the dates when they are cleared.



6. Revision 6, 3-12-83; complete revision of S.I. to shorten guidelist.
7. Revision 7, 7-9-83; added review of Design Change Documents for impact on testing.

#### 8.3.3.01 Use of Minor Test Change Notices

1. Revision 2, 3-26-82; allow MTCN alternate approval by Nuclear Shift Supervisor when the Lead Startup Test Engineer is not available.
2. Cancelled 6-25-82; procedure for test changes is in Startup Instruction 4.5.1.01 (Administrative Controls of Startup Originated Procedures and Test Change Notices).

#### 8.4.2.01 Preoperational/Acceptance Test Procedure Preparation

1. Revision 2, 1-25-83; revised to reflect formation of System Completion Organization.
2. Revision 3, 10-29-82; revised to reflect testing on A7100 logic.
3. Revision 4, 1-11-83
  - a. Clarified wording in respect to Test Change Notices.
  - b. Removed reference to CAIO test results approval.
4. Revision 5, 6-29-83; clarified steps to satisfy concerns of Operational Assurance which arose during Preoperational Test C5115.001.
5. Revision 6, 10-18-83
  - a. Included the process to "mark up" the master copy of a SOP when the SOP is found to be inadequate during testing.
  - b. Allowed loop calibrations to be done in lieu of instrument calibrations.

#### 8.4.2.03 Supplemental Testing

1. Revision 0, 10-4-82
  - a. To establish a procedure for conducting retest using approved CAIO procedures; trial run tests using approved procedures or portions of procedures; testing stop/restarts; and retesting of portions of a specific test procedure such as preoperational acceptance, specific CAIO & specific flush procedures.

- b. This instruction (with Attachment A) replaces SU form 8.4 Preoperational Test Stop/Restart.

. . .

2. Revision 1, 2-24-83

- a. Included in purpose provisions for repeating generic CAIO test not considered as completed testing.
- b. Defined generic CAIO retest as: repeated test conducted after 7.8 for the original testing has been reviewed by the STE.
- c. Allowed continued testing without issuance of a new 7.8 for incomplete generic testing. Repeated test listed on original 7.8 as additional item.

3. Revision 2, 5-13-83

- a. Added use of index of procedure change documents.
- b. Required STE to ensure delivery of supplemental test forms to Nuclear Shift Supervisor's office.

4. Revision 3, 10-18-83

- a. Added criteria for which no supplemental test form is required.
  - 1. Correction of problem resulting in a halt to testing can be effected in 48 hours.
  - 2. Re-alignment of system to meet prerequisites or initial conditions can be accomplished quickly and easily.
  - 3. No change in key test personnel.
  - 4. Concurrence has been obtained from Nuclear Shift Supervisor.

8.4.2.04 Resolution of Test Exceptions

1. Revision 0, 11-23-83

a. Purpose:

- 1.1 To establish a procedure for documenting, dispositioning, reviewing and approving Test Exceptions identified during specific CAIO, CAIO Flushing, Preoperational and Acceptance testing.

1.2 The intent of a Test Exception Disposition (TEDR) is to allow completion of a test procedure, including review and approval of test results, with some items still open in the procedure. The TEDR provides a means of tracking and closing these open items, including review and approval of the disposition.

1.3 Review and approval of TEDR's will be by the same authority that review and approves associated test procedure results.

2. Revision 1, 12-18-82

- a. Revised to ensure Punchlisting of open TEDR's.
- b. TEDR to remain with official STE copy of procedure unless it cannot be dispositioned prior to the approval of test results.

3. Revision 2, 6-11-83

- a. The TEDR shall be used to document testing that failed to meet acceptance criteria for steps that were completed within the procedure or steps that were deferred.

4. Revision 3, 10-18-83

- 1. Added 2 definitions of test exceptions.
  - a. An initial condition relative to lining up the system per the SOP cannot be met because of the system or plant status.
  - b. An initial condition relative to availability of Annunciators/Sequence Recorder points cannot be met but personnel can be stationed locally to protect equipment.
- 2. All TEDR's remaining open at the time of submitting a system's test results to the TRC/Startup Engineer for approval, will be addressed in the Test Analysis Report in accordance with S.I. 8.4.2.05 and entered on the Type 4 punchlist for the system.

8.4.2.05 PRET/ACPT Test Analysis Report

1. Revision 0, 2-3-83

- a. Provide a mechanism for a complete and concise report of the results of PRET/ACPT.

2. Revision 1, 4-23-83

- a. Added "conditional releases" statement of clearance to TAR.

3. Revision 2, 11-9-83

- a. Revised entire instruction to address preparation of a Test Results Package and incorporate the review of the Test Results Package.

8.4.4.01 Computer Software Configuration Control

1. Revision 0, 7-1-83

- a. Provide requirements for computer software configuration control during PRET/ACPT.

9.4.2.01 Startup Test Phase Procedure Preparation Control and Distribution

1. Revision 1, 3-11-82

- a. Added the generic statements to be incorporated into all procedures.

2. Revision 2, 6-28-82

- a. Modified forms for clarity.

- 1. Clarified initial conditions generic statements.

3. Revision 3, 9-17-82

- a. Added a process for control and use of "information copies" of procedure.

4. Revision 4, 11-27-82

- a. Added revision approval form.
- b. Deleted Test Phase Stop/Restart form.

5. Revision 5, 10-20-83

- a. Deletion of release for performance.
- b. Delete Plant Design Engineer from review cycle.

9.5.0.01 Startup NRC Commitment Items, Process and Distribution

1. Revision 0, 8-19-82

- a. Provide procedure for processing NRC commitment items as related to the Startup organization.

C. Non-Testing Related Startup Instructions

4.7.3.02 Transfer of Electrical M&TE to/from Calibration Facility.

1. Revision 1, 12-8-82; clarified an off site calibration facility. Added instructions for transferring to/from on site cal. facility.

4.7.3.24 Transfer of Test Equipment into/out of Fermi 2 Site by Sub-Contractors Working for Startup.

1. Revision 1, 6-11-83
  - a. Added use of the Security Dept. material pass to the procedure.

4.7.4.01 Records Management

1. Revision 2, 1-29-82; added provision to allow Operational Assurance to check out documents from the Startup Resource Center.
2. Revision 3, 7-6-82
  - a. Clarified site Document Control Responsibilities.
  - b. Added the responsibilities of the Startup Administrative Coordinator.
  - c. Added Guidelines for organization of Startup system files.
3. Revision 4, 10-7-82
  - a. Disallow reuse of Document Control numbers.
  - b. Differentiate types of test results by color codes.
4. Revision 5, 2-25-83; incorporated periodic surveys of the Startup file system.
5. Revision 6, 4-5-83
  - a. Added a requirement to ensure the Startup Resource Center reviews materials received for accountability.
  - b. Instructions were delineated for filing of documents.
  - c. An outline regarding dispositions of records was also added.



6. Revision 7, 6-27-83

- a. Revised to comply with the Plant Operations Manual.
- b. Added guidelines for filing Punchlist cards and PN-21's.

4.7.4.03 Correspondence Authorization

1. Revision 2, 3-30-82

- a. Revised signature authority for correspondence going outside Detroit Edison.

4.8.0.01 Startup Training and Qualifications

- 1. Revision 1, 1-29-82: changed signature requirement for minimum experience and education requirements verification from Nuclear Operations - Training to the Startup Engineer.
- 2. Revision 2, 3-11-82; changed approval signature requirements for Level III certification to the Assistant Manager-Nuclear Operations-Startup Testing.
- 3. Revision 3, 8-27-82
  - a. Added Limited Certification requirements for Detroit Edison employees.
  - b. Updated job titles, OJT and Test Book Sections.
- 4. Revision 4, 12-27-82; clarified Limited Certification Requirements.
- 5. Revision 5, 2-11-83
  - a. Incorporated all title changes.
  - b. Unified instruction for all Startup M&TE programs.
- 6. Revision 6, 3-8-83; added "or designee" for Level III certification.
- 7. Revision 7, 4-22-83
  - a. Clarified M&TE instructions.
  - b. Reconciled Startup Training Attendance form to reflect the form currently in use by the Nuclear Operations Training Department.

8. Revision 8, 9-26-83; revised to allow selected Senior STE's to certify Level III.

#### 4.15.0.01 Record of NRC/Startup Interface Report

1. S.I. cancelled 3-18-83

#### 4.18.0.01 Startup Instructions

1. Revision 2, 2-2-82

- a. Added requirement that when Startup Manual contradicts with Startup Instructions the Startup Manual will override the Startup Instructions.

2. Revision 3, 5-18-82

- a. Added requirement for SAC to issue S.I. index.

3. Revision 4, 9-10-82

- a. Added requirement to include revision date on forms.

4. Revision 5, 10-26-82

- a. Added "Controlled" stamp.

5. Revision 6, 12-19-82

- a. Originator is no longer responsible for subsequent revisions.

- b. Acknowledgement follow up for S.I. receipt added.

6. Revision 7, 5-27-83

- a. Updated distribution list.

7. Revision 8, 9-26-83

- a. Added instructions for cancelling S.I.'s.

#### 5.3.2.02 Performance Evaluation Reviews

1. Revision 0, 8-14-82

- a. Establish a procedure for self evaluation of adherence to in house controls.

T. S. Nickelson  
November 10, 1983  
SU - 12,179  
Page 23

2. Revision 1, 1-31-83

- a. Required the task leader to track action items.

8.4.2.02 Distribution of Nuclear Experience Documents in Startup

1. Revision 1, 8-23-82

- a. Revision to change flow paths and responsibilities.

2. Revision 2, 1-31-83

- a. Added Attachment 4 to provide for document follow-up and audit records.

Date: December 9, 1983  
NP-83-1989

To: F. E. Agosti  
Manager - Nuclear Operations

From: G. R. Overbeck *GRO*  
Assistant Superintendent - Nuclear Production

Subject: Administrative Procedure Review

In accordance with Startup Letter 12,096 a review was conducted of Nuclear Production's Administrative Procedures. Two areas were deemed relevant to this review: Administrative Procedures - General and I&C Procedures - Administrative.

Attached you will find an analysis of the significant procedure revisions and changes that may be related to the EF2 Project Test Program.

To place time constraints for independent verification, to assure that the temporary modification record form does not leave the tagging center.



12.000.25T (Cont.)

Rev. 2  
(11/22/83) To clarify procedure and to include review/approval signatures on systems turned over to Nuclear Production.

12.000.26 Material Control

Rev. 0  
(07/26/83) Delineates the established administrative controls for Fermi 2 material control activities prior to and inclusive of material issuance and/or return.

Rev. 1  
(11/01/83) Cosmetic change.

Rev. 2  
(11/18/83) Cosmetic change.

12.000.45T PN-21 (Work Order) Processing for Systems Under System Completion Organization (Title Change on 07/05/83)

Rev. 0  
(02/23/82) Describes the administrative controls which have been established to ensure that maintenance is planned, performed and documented in accordance with the requirements of the FSAR and the Operational Quality Assurance Manual. This procedure in effect for those systems which fall under the jurisdiction of the System Completion Organization (SCO).

Rev. 1  
(05/25/82) To allow sign off of PN-21 packages by staff supervisor in charge/designee and to remove unnecessary words.

T0098  
(11/11/82) To include DECo stock No. on Attachment A, Enclosure 3 as a planning aid.

T0204  
(06/17/83) To allow maintenance on systems/components on weekends and other times that SCO/Startup staff are absent from site to minimize delays.

T0224  
(07/27/83) To clarify routing.

T0322  
(11/08/83) To conform with controlled documentation practices as set forth in 12.000.09 and 12.000.40.

T0283  
(10/10/83) To conform with the Maintenance Instruction guidelines set forth in 12.000.15 and make reference changes.

12.000.47

Incident Reporting System

Rev. 0  
(11/18/82)

To provide administrative controls for preparing, reviewing and distributing plant Incident Reports. Results in each incident being investigated, documented and analyzed to minimize possibility of recurrence.

Rev. 1  
(07/26/83)

Procedure modified to be consistent with 12.000.10.

T0287  
(10/25/83)

Change responsibility for distribution of Incident Reports from GSA to Technical Engineer.

41.000.02

I&C Instrument Records Control

Purpose

To provide guidance for distributing, maintaining, and storage of the various types of documents used by the I&C Group.

Rev. 6  
(05/25/82)

The following sentence was removed from step 4.9  
"one (referring to a Drawing) will be marked FILE COPY and remain in the shop at all times while the remaining copy or copies will be used as working copies that may be removed from the shop".

Rev. 7  
(10/26/82)

To add the availability of five additional copies of generic calibration procedures for use by the Instrument Repairmen and delete a computer print-out not used by the I&C shop.

41.000.03

Usage of Calibration Software

Purpose

The purpose of this procedure is to explain how the PN-21's, Equipment History Folders, Loop History Folders, Calibration Procedures, Calibration Data Sheets and Loop Check Data Sheets are used within the Instrument Group.

As is the case for all 41 series procedures, the activities and requirements contained herein are addressed to permanent plant conditions. Prior to system release to Operations, certain variations or departures may be necessary. However, where this occurs, the alternate methods will be adequately described in the Startup Manual or Startup Instructions.

41.000.03 (Cont.)

Rev. 5  
(06/21/83)

This change added a paragraph 4.7 explaining the maintenance of calibration forms and adding an Enclosure showing flowpath of calibration forms.

Rev. 6  
(11/22/83)

This change enabled easier verification that most current data sheets are in use by having the same revision number on the procedure and the data sheets.

41.000.05

Control and Storage of Test Equipment

Purpose

The purpose of this document is to describe certain shop practices that are used to ensure the proper control, storage, identity and handling of Test Equipment (TE). This document also serves the following related purposes:

1. Describes the "Test Equipment Storage Area" and the "Calibration Lab".
2. Describes the categories of test equipment which exist and how these categories are handled.
3. Describes the custody control measures which are used to control the location of test equipment.
4. Describes the responsibilities for ensuring measuring and test equipment calibration.
5. Describes non-conforming items and their effects.
6. Describes shop practices used to maintain identity of equipment.
7. Describes I&C Group responsibilities relating to the shipping of equipment.

Rev. 6  
(02/23/82)

Made minor changes as to where reference standards and all non-conforming and QA Hold Reference Standards are stored.

Made minor changes to the Section of Field Test Equipment:

Changes included

- a. Storage of FTE
- b. Storage of FTE requiring Post Test Calibration
- c. Added paragraph to notify users of FTE that calibration of that instrument is due. (Step 4.3.3.6)

41.000.05 (Cont.)

- Rev. 7  
(09/21/82) Expanded the note to paragraph 4.3.2.2.c to allow individuals who have not completed the training course on that specific M & TE by the Test Equipment Training Status Log to include equivalent qualification documentation in order to allow use of M & TE.
- Rev. 8  
(05/24/83) This revision clarified the term "Limited Use" (Added Paragraph 4.6).
- Rev. 9  
(09/20/83) This revision included making the FTE user responsible for maintaining an FTE Use Log. Also added a log sheet (attachment 5). Also words were added to Attachment 2 on third party use of FTE, plus notice of unsuccessful post test calibrations.

41.000.06

Calibration of Reference Standards

Purpose

This procedure provides guidelines for the calibration of Reference Standards. It discusses identification of Reference Standards, the three basic categories of Reference Standards and calibration requirements that are peculiar to some Reference Standards. Included are considerations given to calibrating Reference Standards at an outside calibration facility.

- Rev. 6  
(10/26/82) Revised to define boundaries of Data Approval for Reference Standards.
- Rev. 7  
(05/24/83) Clarified and expanded on the three basic categories of Reference Standards.
- Rev. 8  
(11/22/83) Revised to delete requirement for including special calibration requirements on Purchase Requisition. A copy of a specification sheet may now be substituted.

41.000.08

Calibration of Measuring and Test Equipment

- Rev. 7  
(10/26/83) Define boundaries of data approval.
- Rev. 8  
(05/24/83) To expand data sheet used for test equipment calibrations.

F. E. Agosti  
December 9, 1983  
NP-83-1989  
Page 7

<u>41.000.09</u>	<u>Process Instrumentation Removal From and Return to Service</u>
Rev. 3 (10/26/82)	Incorporate General Electric SIL #195.
<u>41.000.11</u>	<u>Calibration of Process Instrumentation</u>
Rev. 5 (03/23/82)	Annual review and clarification.

GRO:PGH:11

cc: W. H. Jens  
R. S. Lenart  
J. H. Plona  
ARMS



Detroit  
Edison

Enrico Fermi Unit II Project  
Startup Engineering Assistance

DATE: December 9, 1983  
F2S83-9370

TO: F. E. Agosti  
Manager, Startup Testing

FROM: C. R. Gelletly *for C.R.*  
Supervisor, SUEA

SUBJECT: Review of Test Procedures and Results

In order to assure that the timely and thorough review of test procedures, test releases, and test results packages occurs, Engineering has or is in the process of implementing several in-house procedural changes. These changes have emanated from numerous meetings within the Engineering organization. The modifications have also been the subject of numerous discussions with Startup. The following paragraphs briefly describe the actions taken to date:

In October of 1983, F2S83-8715 was sent to Startup requesting all TCN's to be accompanied by the pertinent back-up materials. These materials were to include as a minimum the test procedure and any documentation which initiated the need for the TCN. The TCN review was to be as rigorous as the original procedure review.

Also in October 1983, SUEA met several times with Startup to evaluate and redefine the review and approval cycles for test procedures, results, and releases. These cycle revisions are nearing completion and will be published in the near future. Many of the features of the updated cycles are already implemented. These include issuance of Test Results Package copies to all reviewers simultaneously, and revision of the "30 day" test release notification meeting notice format.

In November of 1983 the division of primary responsibility for reviewing specific types of documents was discussed with Startup and within Engineering. This was done to gain assurance that the latest approved revisions of these documents were being used as part of the review cycles. In concert with this effort, checklists were developed within engineering groups to provide evidence of the use of the appropriate documents during the reviews. These checklists are in use as of this writing.

Also in November, guidelines for the review of procedures, etc., were issued to SUEA staff engineers. These guidelines clearly define the objectives and scope of the reviews to be undertaken. Similar guidelines have been defined and implemented within Design Engineering in ECT. FEWP 14 is currently being revised to reflect these guidelines and checklists.

A program to review those PRET's which are completed, being evaluated by Nuclear Production for turnover or are already turned over for substantial compliance with the FSAR was initiated within SUEA. The planned completion date for this activity is December 16, 1983. Of the original thirty such PRET's thought to be subject to this review, eight test results packages were not available for various reasons, and eight have been reviewed as of December 7, 1983. The compliance memorandums issued as a result of this program will carry the same approval signatures as the respective test results approval memorandums.

Should you require further information contact either myself or J. W. Contoni.

Written by: J. W. Contoni *JWC*

:amj

Attachments:

1. Schedule for PRET Review for FSAR Compliance.
2. Strategy for Reviewing Backlog of Thirty PRET's. for FSAR Compliance in Accordance with F. E. Agosti's Memorandum.
3. Engineering Review of Test Results Packages for PRET's.
4. Criteria for Engineering Review of Procedures.
5. Engineering Review of FSAR Relative to Preop Test Procedures and Test Results Package.
6. Project Design Checklist for TRP Review
7. Memorandum F2S83-8715
8. Release of Systems for Preoperational Test
9. Review Cycle for Test Results Packages

cc:

R. P. Gies  
D. Spiers  
R. A. Vance

ARMS

Document Control  
SUEA File 300.03

Attachment #1  
F2S83-9370  
December 9, 1983

Delroit

Edison

---

ENRICO FERMI UNIT 11 PROJECT  
STARTUP ENGINEERING ASSISTANCE

---

November 11, 1983

TO: C. R. Gellertly  
FROM: J. W. Contoni *JWC*  
SUBJECT: Schedule for PRET Review for FSAR Compliance

Attached is a schedule for reviewing the PRET tests on systems either turnedover to Nuclear Production, being reviewed by Nuclear Production, or testing complete. The review will be for compliance with FSAR text, or acceptance criteria. It will also identify information only parameters contained in the FSAR. The schedule will result in the completion of the task by 12/15/83. Please note the first column heading of test N/C means testing is not complete as of this writing. Therefore, these 4 systems were not put into the completion end date portion of the schedule. They will be addressed as the testing is completed.

JWC/sja

## PRET FSAR REVIEW - T/O SYSTEMS

					TEST N/C	COMPLETION SCHEDULE				
						11/18	11/25	12/2	12/9	12/11
				QA (EST)						
C1100.001	CRD Man. Ctl.			1	1					
C1107.001	CRD Pos. Info.			1						
C1150.001	CRD Hyd.			1		1				
C3202.001	F. W. Control			11						1
C4100.001	S.B.L.C.			1	1					
C5112.001	Loc. Pwr. Rang. Non.			1					1	
C5115.001	Rec. Flo. Bias			1				1		
C2100.001	Area Rad. Non.						1			
E1300.001	In Ves. Serv. Eq.			11			1			
G4100.001	FPCCU			11		1				
G5100.001	TWMS			11	1					
N1100.001	Main Stm.			1		1				
N2000.001	Cond. Sys. Pumps			11		1				
N2002.001	Cond. Pol. Demin.			11						1
N2100.001	F.W. Sys.			11					1	
N6100.001	Main Cond. & Aux.			11						1
N7100.001	Circ. Water Sys.			111				1		
P1100.001	Cond. Str. & Xier.			11			1			
P1200.001	Demin. H <sub>2</sub> O M.U. & Xier			11					1	
P4100.001	GSW			111		1				
P4200.001	RBCCW									1
P4300.001	TBCCW									1
P5001.001	Station Air			11				1		
R3100.001	Vital Power J & C			1					1	
R3201.001	D.C. Power - Batt.			1	1					
R3202.001	D.C. 24/48V			1				1		
T3100.001	Rx. Bldg. Crane			1			1			
T4700.001	Drywell Cooling			1					1	
W2500.001	C.W.P.H.			111		1				
X4103.001	RHR Pump Rm. HVAC			1			1			
					4	6	5	4	5	5

Detroit  
Edison

Enrico Fermi Unit II Project  
Startup Engineering Assistance

Date: November 11, 1983  
To: C. R. Gelletly  
From: J. W. Contoni  
Subject: Strategy for Reviewing Backlog of 30 PRET's for FSAR Compliance in Accordance with F. E. Agosti's Memo.

I Identification of Criteria for Review.

- a) FSAR - Latest Amendment (#51)
  - i) Chapter 14
  - ii) Other chapters as applicable (Typically 3 others)
  - iii) Appendix A, C, G, H, & E-5
- b) Technical Specifications (Latest Draft)
  - i) Applicable sections dealing with surveillance test criteria and parameters.
- c) G.E. Test Specifications 22A2271AN
  - i) Applicable to G.E. scope of supply systems. Parameters and procedural step requirements.

II Conduct of the Review.

- a) The SUEA Engineer should obtain a copy of the Test Results Package for the PRET he is reviewing.
- b) The SUEA engineer reviews and notes on a worksheet the criteria and parameters given in each resource document. He identifies the source document by title, number, revision number, date, and appropriate section. He indicates whether the criteria or parameter is to be validated by test or is for information only.
- c) The SUEA engineer compares the information in the Test Results Package with the requirements identified on the worksheet. Any perceived deviations identified are so noted on the worksheet.
- d) The SUEA engineer calls the System Engineer and to discuss any perceived deviations.



- e) The SUEA engineer issues a Comment Control Form to Startup, System Engineering, and Troy Project Engineering and Nuclear Production as appropriate to inform all pertinent parties of the potential deviations. Information transmittal to System Engineering and/or Troy Project Engineering is via FAST. Typed speed memos may be used to transmit information to NUC Production and Startup. After the FAST's and Comment Control Forms are sent out the SUEA engineer calls a meeting if required within 5 days to resolve the deviations.
- f) Resolution of Deviations can take the form of:
  - 1) A memorandum from the System Engineer explaining the rationale for the technical acceptability of the deviations. Revision of the FSAR is to be addressed in the memorandum.
  - 2) A memorandum being issued to revise the Technical Specifications.
  - 3) A retest and subsequent supplemental test procedure to cover any testing requirements.
- g) Following the meeting the SUEA engineer will issue a memorandum addressing the extent of the review and the rationale and disposition of the perceived deviations listed on the worksheet. The memorandum will be addressed to the LSTE from the appropriate SUEA Lead Engineer and noted by J. W. Contoni, PRET Review Task Co-ordinator. Input from the System Engineer and other organizations will be attached as appropriate. Copies will be sent to System Engineering, Troy Project Engineering, and Nuclear Production and PQA. Approval of the supervisor, SUEA will be required.

/jlm

Attachments

Reviewer: \_\_\_\_\_ Date: \_\_\_\_\_

PRET No. \_\_\_\_\_ Title \_\_\_\_\_ Rev. \_\_\_\_\_

[illegible]

Attachment II

TO: LSTE  
FROM: Lead Engineer - SUEA  
SUBJECT: Compliance Review of PRET \_\_\_\_\_ Rev. \_\_\_\_\_

SUEA has reviewed the FSAR Rev. \_\_\_\_\_, the Technical Specifications dated \_\_\_\_\_, and the \_\_\_\_\_ test specifications and compared the parameters and test requirements contained therein with the test results package for PRET \_\_\_\_\_ Rev. \_\_\_\_\_. A meeting was held on \_\_\_\_\_ to resolve the potential discrepancies identified by that review. The persons attending the meeting were \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, ..... The rationale and disposition of the potential discrepancies are listed on the attachment to this memorandum. Pending the satisfactory execution of the dispositions shown this PRET \_\_\_\_\_ Rev. \_\_\_\_\_ is considered by Engineering to be in satisfactory compliance with the previously listed documents.

Written by: \_\_\_\_\_  
SUEA Staff Engineer

Noted by: \_\_\_\_\_  
J. W. Contoni  
PRET Review Task Co-ordinator

Approved by: \_\_\_\_\_  
C. R. Gelletly  
Supervisor, SUEA

cc: System Engineer \_\_\_\_\_  
Nuclear Production \_\_\_\_\_  
Project Engineering \_\_\_\_\_  
P.Q.A.  
SUEA File # \_\_\_\_\_  
ARMS  
Doc. Ctl.

November 10, 1983

Engineering Review of Test Results Packages for PRET's

The test results package is assembled by the Startup Test Engineer after he has completed his test. It includes a full copy of the test procedure with data blanks filled in, a test analysis report (TAR's) which summarizes the test results, test change notices (TCN's), test exception disposition reports (TEDR's), and other documents pertinent to documenting the successful completion of the tests. The test results packages are often voluminous, sometimes being in excess of several hundred pages. The engineering review of these test results is not necessarily a page-by-page line-by-line review. However, enough of the individual sheets are reviewed in detail to achieve a satisfactory level of confidence regarding the quality of the test.

The engineering review is structured to concentrate on the actual parameters measured and conclusions reached for equipment or system acceptability. Following are the general guidelines for this review:

1. Review the test analysis report (TAR). This is normally a five to twenty page document which gives a summary statement of the successful completion of the test, and also discusses problems that were encountered during the test and how they were dispositioned. This should be the first item reviewed. The TAR is part of the procedure and is called "Appendix D". In some packages it is brought to the front of the package, but in others the reviewer will have to dig down to its location in the procedure.
2. The test procedure was reviewed by Engineering prior to release of the system for test. However, it may be appropriate in reviewing the test results package to review some portions of the procedure relative to the guidelines listed previously.
3. The test change notices should be reviewed to the extent necessary to insure that they did not change the intent of the procedure relative to test results. These are to be listed in the test results package and may not warrant a detailed review, depending on their purposes.
4. Test exceptions or deviations from the approved procedure (and TCN's) are each to be reviewed by Engineering. These are summarized in the TAR and are detailed in the TEDR's, which describe the problem as well as how it is being dispositioned.

5. The list of discrepancies identified by Quality Assurance is to be reviewed for deviations or exceptions that appear to exist without being covered on TEDR's. These might include values that exceeded allowable tolerances or other technical concerns. (Many of the QA concerns are procedural in nature, such as correct initials and dates. These are important, but are covered in direct communication by QA and Startup.)
6. The test results also have to be compared to the FSAR and other licensing documents. Since the procedure has already received this type of review, the only discrepancies that should exist at this point would be covered in test exceptions. For those exceptions which also are not in compliance with the FSAR, a thorough engineering analysis is required on the part of the System Engineer, with support from SUEA and Troy as appropriate. If the results are found acceptable, the rationale for this acceptance must be clearly stated in an Engineering memorandum, along with an explicit statement regarding revising of the FSAR to reflect the new information. Conflicts with other licensing documents would be treated accordingly.
7. Following the review of the test results package, an Engineering memorandum is written consisting of a cover page which contains the approval signatures, and attachments which provide the detail necessary to indicate the degree of review and how problems were resolved. Typically this might consist of two or three typewritten pages by SUEA, along with several brief memorandums from the System Engineers and Troy to describe their reviews. In the case of deviations from the FSAR, a specific memorandum from System Engineers with their statement of the FSAR revision action must be included.

CRG/amj



Criteria for Engineering Review of Procedures

In reviewing startup preoperational test procedures Engineering will be considering a number of aspects. Each of these aspects will be addressed in the following four ways:

Personnel Safety

Equipment Hazard

Design Intent

Licensing Comments

The following aspects of the procedures will be reviewed:

1. Test objectives - is stated in the beginning of procedure and should be stated prior to major sections or subsections within the procedure.
2. Test Boundaries - Define what is being tested.
3. Scope of test relative to commitments - to insure that test includes all commitments in EGAC and other licensing documents.
4. Acceptance criteria - On what basis will the decision be made that the system is satisfactory.
5. Data sheet - is to require recording of values and include acceptable tolerance.
6. Insure that all parameters required for test results review are actually measured and recorded.
7. Review type of test equipment used generally, and especially for unusual or critical measurements.
8. Review quality of air, water, and electricity specified for the test (In some procedures it has been found that air and water purity have not been adequately specified).

(Note: The Engineering review is not necessarily a detailed line-by-line review of each page. This is done by Startup, QA, and Nuclear Production.)

Documents used as reference by the various engineering groups are listed on the attached page.

CRC/amj

11-9-83

Attachment

Reference Documents Used by Engineering in Review of Preop Test Procedures and Test Results Packages

	SCEA	SYSTEM ENGINEERS	TROY	COMMENTS
G. E. Test Specifications	Check for necessary steps in PRET	(Are already reviewed on regular basis)	(Are already reviewed on regular basis)	Primarily a G. E. responsibility.
Test Instructions (by DECO for non-G. E., QAI systems.)	(These have not been currently updated, and are only an optional reference.)			
Design Specifications	Reference	Reference	Primary Responsibility	
Design Drawings and Change Documents.	Reference	Reference	Primary Responsibility	
FSAR	Detailed review, per procedure.	Detailed review, per procedure. Results deviations will be addressed in depth.	Review per Troy procedure.	
Technical Specification	Reference	(Are reviewed on a regular basis.)		Primarily Production Responsibility
Regulatory Guides	(Have already been reviewed relative to plant design. Changes needed have been incorporated in Design Documents.)			

Engineering Review of FSAR relative to Preop Test Procedures and Test  
Results Package

1. Chapter 14 will be reviewed in all cases as this chapter is intended to consolidate all test requirements from throughout the FSAR.
2. Major sections of the FSAR relative to the specific system as identified in the Table of contents will be reviewed.
3. Other portions of the FSAR may also be reviewed as appropriate, as determined from steps 1 and 2.
4. Documentation of review of preop test procedure: Documentation of procedure review is acceptable by filling out Comment Control Forms. They are collected by SUEA and forwarded to Startup.
5. Documentation of results review is accomplished by the Engineering test results approval memorandum. In this memo there are four categories of statements relative to the FSAR:
  - A. Test results are in compliance with FSAR - list major sections reviewed, and a summary statement for each that the subject addresses and the pertinent results parameters.
  - B. For results that are not in compliance with the FSAR but are satisfactory, provide rationale for technical acceptability and state how the FSAR will be revised or otherwise addressed. (For areas of disagreement that are not technically acceptable, obviously the system or equipment will have to be modified prior to approval of test results.)
  - C. For values mentioned in the FSAR to describe the system, where the values are not testable or not intended to be tested, it may be beneficial in some cases to explain this in the results approval memo. The purpose of this would be to save time that would otherwise be spent later in answering questions.
  - D. Miscellaneous comments.

CRG/amj

11-9-83

Procedure 3.XX  
Attachment 3.XX-2  
Revision - None  
Page 1 of 3

Project Design Checklist for TRP Review

TRP for PRET No.: \_\_\_\_\_

Reviewing Discipline: \_\_\_\_\_

Reviewing Date: \_\_\_\_\_

General Considerations

Yes No NA

- Was test procedure reviewed prior to testing? ☐ ☐ ☐
- Did Engineering provide or assist with test scope? ☐ ☐ ☐
- Did Engineering witness test? ☐ ☐ ☐

Consideration of Objectives and Criteria

Note: A response of "No" should be complemented with additional information in the additional comments section.

- Does test objectives address all Engineering requirements present in:

- FSAR? ☐ ☐ ☐
- Design Calculations? ☐ ☐ ☐
- PAD? ☐ ☐ ☐
- FSD? ☐ ☐ ☐
- DI? ☐ ☐ ☐
- Specifications? ☐ ☐ ☐
- Design Drawings? ☐ ☐ ☐

- Is acceptance criteria consistent with Engineering requirement?

Consideration of Disposition of Exceptions

Note: A response of "No" should be complemented with additional information in the additional comments section.

- Does Engineering agree with all dispositions of exceptions? ☐ ☐ ☐

Consideration of Disposition of Exceptions (cont'd.)

	Yes	No	NA
• Is each disposition technical acceptable?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Are changes required in Engineering documents as a result of the dispositions?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• If dispositions are unacceptable, has recommended actions or alternatives been provided?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Additional Comments

---

---

---

---

---

---

---

---

Disposition of TRP

- ☐ Accepted (Refer to additional comments section for justification relative to responses of "No".)
- ☐ Accepted with following action required:

---

---

---

---

---

---



Disposition of TRP (cont'd.)

- ☐ Not Accepted (The following is recommended to bring TRP into compliance with Engineering requirements.)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Reviewed by: \_\_\_\_\_ Date: \_\_\_\_\_ Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

Detroit  
Edison

Enrico Fermi Unit II Project  
Startup Engineering Assistance

October 22, 1983  
F2S83-8715

TO: T. S. Nickelson  
Startup Engineer

FROM: C. R. Gelletly  
Supervisor, SUEA

*CRG*  
*10/22/83*

SUBJECT: Engineering Review and Approval of TCN's

This is to confirm our phone conversation on October 22 regarding TCN reviews.

Based on feedback received from our on-site NRC inspectors, including the NRC exit meeting on October 21 with Steve DuPont, there is a need to raise our assurance that TCN's are being adequately reviewed prior to approval.

Within engineering, when a TCN is reviewed we have been looking at the entire package when warranted but have not always requested the Startup Test Engineer to bring over the entire test package. Many of the TCN's are very minor in nature and do not require extensive review. Others obviously do require extensive review. However, this does raise the question about the marginal cases where looking through the package may, for example, reveal other areas affected by the TCN that were not listed. If the package is not at hand and the TCN seems "minor", the added assurances in this regard may not be obtained.

Therefore, as we discussed on October 22, I am proposing that every TCN must be accompanied by the associated test package, procedure, and related documents needed for review of the TCN, when it is brought to SUEA. This should not present a problem to the STE, since he obviously has and is working with the package. And it should improve both the quality and turn-around time for the engineering review.

I request Startup's concurrence in this and would like to make it effective Monday, October 24.

CRG/jlm

Noted:

cc: F. E. Agosti  
E. Lusis  
T. L. Mintun  
J. W. Nunley  
L. E. Schuerman  
D. Spiers  
R. A. Vance

Arms  
File 5.3  
SUEA File 300.03

*T. S. Nickelson*  
T. S. Nickelson  
Startup Engineer

RELEASE OF SYSTEMS FOR PREOPERATIONAL TEST  
(Engineering Release Memorandum)

STE sends out Mtg.  
notice for "30 - day" Mtg.

"30 day" meeting by STE to  
review test scope and open  
construction items.

Procedure review by System  
Engineer.

Obvious open items that will  
prevent test performance  
are addressed.

Test Release Schedule  
confirmed at TRC Mtg.

SUEA obtains necessary open  
item lists:

Configuration Control Log  
PQA Open Items List  
Master Punch List.

SUEA Engineer statuses  
items, reviews with  
System Engineer & Troy  
as appropriate.

SUEA writes Test Release memo,  
reviews with other engineering groups  
and obtains approvals.

Test Released at  
TRC Meeting.

Test is started.

7d

14d

14d

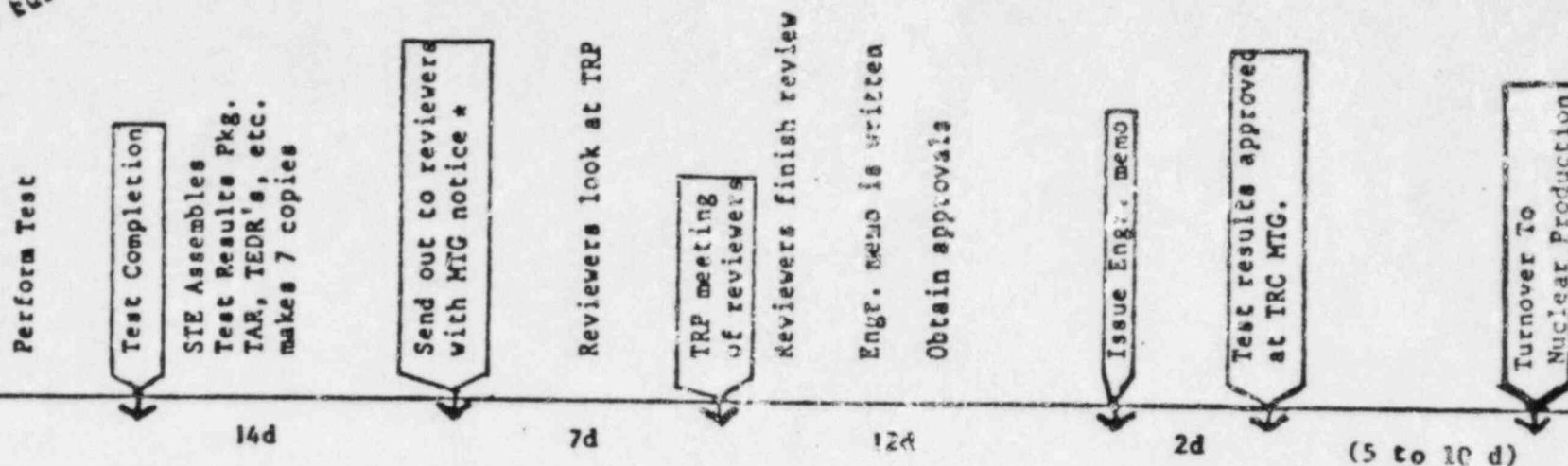
TRWP (Test Restraint Work Plan)  
Team Meetings occur weekly on  
a continuing basis.

("d" means calendar days)

CRG/amj  
10-18-83

DECLASSIFIED

# REVIEW CYCLE FOR TEST RESULTS PACKAGES



("d" means calendar days)

35 days from test completion to test results approval.

## REVIEWERS

- Production - (Supt, Asst, Supt. Operations Engr, Tech Engr.)
- Sys Engr. - NOC (E. Lusia)
- Troy Engr. - (J. W. Nunley)
- OA
- SUEA - (Lead Engr.)
- Startup Assurance (STE, TRC CHMU)
- Startup Director/OPS Mgr. (T. Mintun)

\*  
cc of MTG    CRG                    RAV  
Notice:    SHN                    D. Spiers  
            F. Agosti            etc.

Detroit  
Edison

F. E. AGOSTI

NOV 17 1983

Date: November 14, 1983  
OA-83-690

To: F. E. Agosti  
Manager - Startup Testing

From: W. E. Miller *ud B for WE MILLER*  
Supervisor - Operational Assurance

NOTED	_____
FILE	_____
CIRC	_____
TOSS	_____

Subject: Test Program Improvements

During the NRC Region III Exit Meeting of 11/21/83, deficiencies in the test program had been identified. The deficiencies noted were primarily associated with the Preoperational Tests of the R3100 system 120V and R3200 system. The deficiencies were related to omissions in test procedures, unsatisfactory review of the test procedures and inadequate review of the test results.

As requested in your letter dated October 23, 1983 (SU-12,096), a review has been performed to determine the changes made in the NQA involvement with the test program since January, 1982 to improve the test program. The results of the review indicate that numerous changes have been incorporated in the test program. These changes involve a greater in-depth participation of NQA in the test program and the implementation of additional Quality Assurance Procedures (QAPs) which provide detailed direction for NQA activities that directly and indirectly affect the test program.

The QAPs issued since January, 1982 that affect the test program include the following. Those procedures identified with an asterisk have been revised and issued under a new procedure number. The double asterisk indicates that two procedures were incorporated into one procedure.

<u>No.</u>	<u>Title</u>	<u>Issued</u>
9.701	QA Organization - Preop Testing Phase	Mar. 1982
9.702	QA Organization - Startup	Apr. 1982
9.704	Inspection of Test Activities	Mar. 1982
9.706	Review of Test Packages	Jun. 1982
*9.708	Nonconformance Reporting & Tracking	Jul. 1982
*9.711	Surveillance of Plant Activities	May 1982
*9.713	Audit Schedule	Apr. 1982
*9.714	Audits	May 1982



<u>No.</u>	<u>Title</u>	<u>Issued</u>
9.718	QC Limited work Authorization Tags	Nov. 1982
*9.125	PQA Review of Procedures	Mar. 1983
*9.128	PQA Preparation for Preop Testing	Apr. 1982
9.131	QA Review of Turnover Packages	Oct. 1983
*9.171	Trend Analysis Program	Feb. 1983
*9.190	Quality Concern Report System	Sep. 1982
*9.0201	Indoctrination and Training	Oct. 1983
*9.0202	Qualification & Certification of Inspectors	Oct. 1983
9.1001	P/NQA Inspection	Oct. 1983
9.1601	Corrective Action	Oct. 1983
9.1604	Stop Work Action	Oct. 1983

Since January 1982, the QA review of test procedures has constantly been upgraded to provide greater in-depth reviews for quality considerations. The review has also been expanded to include compliance to FSAR commitments. The review of these results has also been greatly expanded since January 1982 as demonstrated by the attached guidelines for reviewing test data. These guidelines have been expanded from the single page used in January 1982, to the present 15 pages.

The methods for determining QC Hold/Witness points to test procedures has also been greatly refined to provide meaningful coverage during the test program. These methods will also be utilized during plant operation for QC Surveillance.

The total QA involvement in the test program is presently under review. The objective of this review is to provide a good interface with the Startup Test Group and to ensure that all FSAR and other DECo commitments relative to the test program have been satisfied. Additional QA Personnel with expertise in Startup and Operations are also anticipated in the near future to provide QA assistance in the Preop and Startup test program.

/acp

Attachment

TASKS TO DO

1. Physically orient oneself with the S/U complex and personnel.
2. Familiarize oneself with the S/U Resource Center.
  - A. Files
  - B. Procedures
  - C. Filing systems
  - D. Shirley Langton
3. Read/review SLM Rev. 9. Chap. 4, 5, 6, 7 thoroughly.
4. Review T/O packages with SLM as a basis for comments, punchlists (pre-, post).
5. Review test data sheets with SLM as a basis for comments.
  - A. CAIO test data (mech., elect., I & C)
  - B. Const. test data (hydro, align., etc.)
  - C. Flushing procedure data.
6. Review current procedures being used by S/U for testing.
  - A. I & C CAIO (loops)
  - B. Flushing
  - C. Electrical CAIO
  - D. Retest-Electrical (QA-1)
7. After item 6, above, assign witness and hold points.
8. Perform a QA/QC documentation verification per SLM, Rev. 9, Chap. 7, Sections: 7.4.2, 7.6.5.
9. Review any deviation reporting on particular system being reviewed.

# MASTER COPY

REVISION 0  
PAGE 1 OF 2  
MAR, 1962

## GUIDELINES FOR TEST DATA REVIEW

1. While reviewing 7.8's the following items are to be completed:
  - A. All "Item numbers" have been signed as complete or deleted.
  - B. The "Reviewed by" and "Approved by" are signed.
  - C. Test procedures recorded have the current revision number listed.
  - D. Compare the item numbers with the Data Sheets to ensure all items have been tested as stated.
  - E. (QA-1 Systems only) "QC Witness Required" or "No QC Required" has been stamped on the form.
    - A. For items that require QC Witness, review QC Inspection Log to verify close-out of the QC Inspection.
2. While reviewing Test Data Forms, the following items are to be completed:
  - A. Data Forms are from the current revision of the procedure being tested.
  - B. All blanks are complete (either with Data or N/A).
  - C. Comments or remarks are identifiable to a particular step, referenced to the Punchlist No., M.D.L. or are self explanatory.
  - D. Where acceptance values are given on the Data Sheets, compare values recorded to the requirements. If different, item should have an explanation.
3. While reviewing QA Level 1 Systems, the following additional reviews are to be completed:

Make copies of the following:

  1. Master Instrument List
  2. Material Identification List (Cable)
  3. System Boundary Package
  4. Associated System Drawings
  - A. Utilizing the copy of the Master Instrument List and the I&C 7.8's, highlight the instruments that have been tested.
  - B. Utilizing the copy of the Material Identification List and the Electrical and I&C 7.8's, highlight the cables that have been tested.

Guidelines for Test Data Review (cont.)

- C. Utilizing the copy of the System Boundary Package and the Mechanical and Electrical 7.8's, highlight the equipment that has been tested.
- D. Utilizing the copies of the System Drawings and the above highlighted items, highlight the drawings to reflect all the items tested.
- E. After all the Data has been reviewed and highlighted, review all items from above to ensure all the items have been tested.

# MASTER COPY

Revision 1  
September 2, 1982  
Page 1 of 3

## A. PREREQUISITES FOR TEST DATA REVIEW

1. Read the following:
  - a) PQAP 9.128
  - b) PQAP 9.706
  - c) Startup Manual
  - d) S.I. 8.1.0.01
  - e) FSAR Chapter 14
  - f) FSAR Chapter 17.2
2. Review the following:
  - a) Generic Test Procedures
  - b) CAIO Test Procedures
  - c) CCMF Test Procedures
  - d) Preop Test Procedures
  - e) Startup Test Procedures
  - f) P.O.M. 41.000.11
  - g) P.O.M. 46.000.11
  - h) MI-IC 3000
3. Familiarize oneself with the test data review area within QA
  - a) Documentation used
  - b) Logging system
  - c) System files
4. Physically orient oneself with the S/U complex and testing personnel
  - a) LSTE's
  - b) S.T.E's
5. Familiarize oneself with the S/U Resource Center
  - a) S.R.C. Technician
  - b) Files
  - c) Filing System
6. Familiarize oneself with the S.A.C. Area
  - a) S.A.C.
  - b) Files

## B. GUIDELINES FOR TEST DATA REVIEW

1. While reviewing 7.8's the following items are to be completed:
  - a) All "Item numbers" have been signed as complete or deleted.

- b) The "Reviewed by" and "Approved by" are signed.
  - c) Test procedures recorded have the current revision number listed.
  - d) Compare the item numbers with the Data Sheets to ensure all items have been tested as stated.
  - e) (QA-1 Systems only) "QC Witness Required" or "No QC Required" has been stamped on the form.
    - A. For items that require QC Witness, review QC Inspection Log to verify close-out of the QC Inspection.
  - f) Upon completion of the above, stamp the 7.8's with the "QA Reviewed" stamp.
2. While reviewing Test Data Forms, the following items are to be completed:
- a) Data Forms are from the current revision of the procedure being tested.
  - b) All blanks are complete (either with Data or N/A).
  - c) Comments or remarks are identifiable to a particular step, referenced to the Punchlist No., M.D.L. or are self explanatory.
  - d) Where acceptance values are given on the Data Sheets, compare values recorded to the requirements. If different, item should have an explanation.
3. Upon completion of items 1 and 2, the following items are to be completed:
- Make copies of the following:
- a) Master Instrument List
  - b) Turnover Control-Cable
  - c) System Boundary Package (Section 2.0)
  - d) F.O.S. (Functional Operating Sketch) Valve Cross Reference List
  - e) Associated System Drawings (As necessary, if one or more of the above are incomplete)
  - f) Open item status report
    - 1. Utilizing the copy of the Master Instrument List and the I&C 7.8's, highlight the instruments that have been tested.
    - 2. Utilizing the copy of the Turnover Control-Cable List and the Electrical and I&C 7.8's, highlight the cables that have been tested.



3. Utilizing the copy of the System Boundary Package and the Mechanical and Electrical 7.8's, highlight the equipment that has been tested.
4. Utilizing the copies of the System Drawings and the above highlighted items, highlight the drawings to reflect all the items tested.
5. After all the Data has been reviewed and highlighted, review all items from above to ensure all the items have been tested.
6. Review the "Open Item Status List" for open NCR's, QCR's,.....

INDIVIDUAL TRAINING  
RECORD FOR TEST DATA REVIEWERS

Name \_\_\_\_\_

A. Prerequisites for Test Data Review

Signature \_\_\_\_\_

Date \_\_\_\_\_

1. Read the following:

- a) PQAP 9.128 Rev. \_\_\_\_\_
- b) PQAP 9.706 Rev. \_\_\_\_\_
- c) Startup Manual Rev. \_\_\_\_\_
- d) S.I. 8.1.0.01 Rev. \_\_\_\_\_
- e) FSAR CH. 14 Rev. \_\_\_\_\_
- f) FSAR CH. 17.2 Rev. \_\_\_\_\_

2. Reviewed the following:

- a) Generic Test Procedures
- b) CAIO Test Procedures
- c) CCMF Test Procedures
- d) PREOP Test procedures
- e) STARTUP Test Procedures
- f) P.O.M. 41.000.11
- g) P.O.M. 46.000.11
- h) MI-IC 3000

3. Familiarize oneself with the  
Test Data Review area within Q.A.

4. Orientated with Startup complex  
and Test Personnel.

5. Familiarized with the Startup  
Resource Center.

6. Familiarized with the S.A.C.  
area.

REVIEWED BY \_\_\_\_\_ DATE \_\_\_\_\_

# MASTER COPY

Revision 2  
July 19, 1983  
Page 1 of 14

## 1.0 PURPOSE AND RESPONSIBILITIES FOR TEST DATA REVIEW

- Ref. 5.1, (Intro)  
Ref. 5.2, (17.2.11)
- 1.1 The O.A. Section is responsible for reviewing Test Packages to assure test results meet the acceptance criteria...(by means of) comparing the recorded test data to the acceptance criteria values listed in the Test Procedure.
- Ref. 5.3  
(14.1.1.2.H)
- 1.2 O.A.... reviews quality-related aspects of test results.
- Ref. 5.4  
(4.12.1)
- 1.3 O.A. is responsible ... to assure that records are complete.
- Ref. 5.1  
(6.1)
- 1.4 ... A sufficient number of Test Packages are reviewed to establish the credibility of Testing Program Activities and verify the accuracy of the Test Data.

## 2.0 PREREQUISITES FOR TEST DATA REVIEW

### 2.1 Read and document the following:

- |                      |                   |
|----------------------|-------------------|
| 1. PQAP 9.128        | 7. S.I. 4.5.1.01  |
| 2. PQAP 9.706        | 8. S.I. 8.4.2.01  |
| 3. Startup Manual    | 9. S.I. 8.4.2.04  |
| 4. FSAR Chapter 14.1 | 10. S.I. 8.4.2.03 |
| 5. FSAR Chapter 17.2 | 11. S.I. 8.1.0.01 |
| 6. S.I. 8.4.2.05     |                   |

### 2.2 Review and document the following:

- |                            |                            |
|----------------------------|----------------------------|
| 1. Generic Test Procedures | 5. Startup Test Procedures |
| 2. CAIO Test Procedures    | 6. P.O.M. 41.000.11        |
| 3. CCMF Test Procedures    | 7. P.O.M. 46.000.11        |
| 4. Preop Test Procedures   | 8. MI-IC-30C               |

### 2.3 Familiarize oneself with the test data review area within QA and document:

1. Documentation used
2. Logging system
3. System files

### 2.4 Physically orient oneself with the S/U complex and testing personnel and document:

1. LSTE's
2. S.T.E's

2.5 Familiarize oneself with the S/U Resource Center and document:

1. S.R.C. Technician
2. Files
3. Filing System

2.6 Familiarize oneself with the S.A.C. area and document:

1. S.A.C.
2. Files

3.0 GUIDELINES FOR GENERIC CAIO TEST DATA REVIEW

3.1 While reviewing 7.8's the following items are to be reviewed for:

1. All "item numbers" have been signed as complete or deleted.
2. The "Reviewed by" and "Approved by" are signed.
3. Test procedures recorded have the current revision number listed.
4. Compare the item numbers with the data sheets to ensure all items have been tested as stated.
5. (QA-1 7.8's only) "QC Witness Required" or "No QC Required" has been stamped on the form.  
  - L For items that require QC Witness, review QC Inspection Log to verify close-out of the QC Inspection.
6. Upon completion of the above, stamp the 7.8's with the "QA Reviewed" stamp.

3.2 While reviewing Test Data Forms, the following items are to be reviewed for:

1. Data forms are from the current revision of the procedure being tested.
2. All blanks are complete (either with Data or N/A).
3. Comments or remarks are identifiable to a particular step, referenced to the Punchlist No., M.D.L. etc, or are self explanatory.
4. Where acceptance values are given on the Data Sheets, compare values recorded to the requirements. If different, item should have an explanation.

3.3 Upon completion of items 3.1 and 3.2, the following items are to be completed:

Make copies of the following:

- . Master Instrument List
- . Turnover Control-Cable Listing
- . System Boundary Package (Section 2.0)
- . F.O.S. (Functional Operating Sketch) Valve Cross Reference List (As necessary)
- . Associated System Drawings (if necessary).
  - 1. Utilizing the copy of the Master Instrument List and the I&C 7.8's, highlight the instruments that have been tested.
  - 2. Utilizing the copy of the Turnover Control-Cable List and the Electrical and I&C 7.8's, highlight the cables that have been tested.
  - 3. Utilizing the copy of the System Boundary Package and the Mechanical and Electrical 7.8's, highlight the equipment that has been tested.
  - 4. Utilizing the copies of the System Drawings and the above highlighted items, highlight the drawings to reflect all the items tested.
  - 5. After all the Data has been reviewed and items highlighted, review all items from above to ensure all the items have been tested.
  - 6. Prepare a list of items that have not been tested. (Taken from items not highlighted).

(Ref. 5.4) 4.0 GUIDELINES FOR PREOPERATIONAL TEST RESULTS DATA REVIEW

4.1 The following are basic requirements to be reviewed for:

- (8.3.1/4.5.3) 1. Procedures are approved
- (4.5.3) 2. TCN's are approved
- (4.5.4) 3. TCN's are included in package
- (4.7.1) 4. Trial runs must be documented and number of attempts made indicated.
- (4.7.1) 5. No correction fluids or other means of masking data is permitted.
- (8.4.4/4.7.1) 6. O.A. to be notified of witness points.
- (4.7.1) 7. Master copy of Recorded Data, Test Results, Test Analysis Reports are reviewed by LSTE.

- (4.7.3) 8. M&TE must be documented.
- (8.1) 9. Test Analysis Report attached to completed test package.
- (8.2) 10. TCN are recorded, reviewed & approved.
- (8.3.2) 11. Data sheets completed, signed & dated by STE & other personnel taking the data.
- (8.3.2) 12. Temporary Changes will be documented and following testing completion, be removed.
- (8.3.2) 13. Retesting performed on test exception are to be documented.
- (8.3.3) 14. Procedure modifications are documented and become part of final test procedure.
- (8.3.3) 15. TCN reviewed & approved by appropriate people.
- (8.3.3) 16. TCN verifies no omission of FSAR Ch. 14 commitments.
- (8.3.4/8.4.5) 17. Test results package will consist of an evaluation of the following:
  - 1. Original data sheets and data collected.
  - 2. Preoperational test approval/release for performance.
  - 3. TCN's
  - 4. Attached pertinent logs & charts
  - 5. Completed preoperational test procedure
  - 6. Test Analysis Report
  - 7. CAIO test results for CAIO testing conducted during Preop testing.
- (8.4.3) 18. In some cases, portions of test procedure may be completed during CAIO pending:
  - 1. Test Procedure is the same.
  - 2. Appropriate documentation has been referenced and included in the Data Package as shown in Appendix E Index.
  - 3. Test was performed and/or witnessed by authorized STE/SIT.
- (8.4.4) 19. During the test, the Test Data will be accurately and properly recorded on appropriate Data Sheets.
- (8.4.4) 20. Person actually taking Data shall FIRST sign his full name, initial & date at the first sign off point, THEN may use initials on subsequent signoffs.
- (8.4.4) 21. If it is not possible to complete a test procedure the following action shall be taken:
  - 1. Noted at the step not performed as an exception.
  - 2. Recorded in the Test Exception section.
  - 3. TEDR issued



- (8.4.4) 22. To re-release the test to complete the not tested steps, a STF shall be issued.
- (8.4.4) 23. STF's will contain the following:
1. Pre-requisites
  2. Initial conditions
  3. Specify the sections of the test to be performed.
- (8.4.4) 24. STF's are to remain with and become part of test package.
- (8.4.4) 25. All items found out of spec. shall be flagged in the test report.
- (Ref. 5.7) 4.2 For Procedure Adequacy Review the Following:
- (4.1.4.2.A) 1. Each Temp. circuit alteration will be logged in Appendix B.
- (4.1.5.1) 2. Special test equip. must be listed with:
- Name  
Model No. (when possible)  
Req'd Range  
Accuracy
- (4.1.6.3) 3. "Initial conditions" step:
- "Exceptions listed in the TRP attending this section have been cleared".
- (4.1.6.18) 4. All supporting system/functions (Instrument air, cooling water, lubrication, etc.) will be available from the permanent source. If not available a TCN is req'd.
- (4.1.6.21) 5. S.O.P. valve line up Data Sheets must be attached to the procedure in Appendix E.
- (4.1.6.23) 6. A copy of the response time testing surveillance procedure is to be attached to the PRET. (Attachment 1 identifies PRET vs. Surv. Test No's.).
- (4.1.6.24) 7. Sign off (Initials) at each step.
- (4.1.6.26) 8. The person actually making a procedure entry shall print his full name, sign his full name, and initial/date the first sign off entry he makes.

( 4.1.9.2)

9. Include Base Line Data for pumps in accordance with ASME code XI for the following pumps.

P4400 - EECW  
E2100 - CS  
E4100 - HPCI & Booster  
E5100 - RCIC  
E1151 - RHR SW  
P4500 - EESW  
R3001 - DGSW  
C4100 - SBLC  
E1100 - RHR  
T4102 - CCHVAC

(Ref. 5.5)

- 4.3 For control of procedures and TCN's review the following:

(3.1.6.1) 1. PRET's become effective on the date of approval and are to be utilized from the next working day on.

(3.2.1.2/3.2.1.4) 2. TCN number is to be entered in the Test Procedure at the point of the change that is to be made.

(3.2.1.3) 3. TCN's are to be approved prior to implementation.

(3.2.1.4) 4. TCN's are to be attached to the procedure.

(3.2.2.2) 5. LSTE's are to sign TCN's.

(3.2.6) 6. TCN's become effective at the time of approval.

(4.1.1) 7. Procedure Revision Summary will indicate pages affected by past revision.

(4.2.1) 8. Approved Procedures will be issued on white paper.

(4.2.2/4.2.13) 9. Approved Procedures will be stamped in red ink "TRC Approved" on the approval sheet only.

(4.2.4/4.2.13) 10. All test procedures will be stamped in red ink "Controlled" (After 1-10-83)

(4.2.13/4.2.10) 11. Each "Released for Performance" procedure will have the "TCN Stamp" on the approval sheet.

(4.2.13/4.2.11) 12. Each page will be stamped "Official Copy - STE" in red ink.

(4.2.14) 13. Replacement or supplemental pages are issued by supplemental test forms or TCN's. "Official Copy - STE" stamp applies to these forms also.

(4.4.2.1) 14. Major TCN's are reviewed and approved by the same people specified for the original procedure.

- (4.4.3.6) 15. Minor TCN's requires the NSS only.
- (4.4.4.2) 16. All TCN's will be noted in the righthand margin of the procedure next to the affected steps. Complete page change/page replacement TCN's will have the TCN number in the upper righthand corner instead of revision number.
- 17. TCN required signatures:
  - (5.3.2.11) 1. Individual entering changes in the procedure
  - (5.3.2.15) 2. STE initiating TCN
  - (5.3.2.16) 3. LSTE (Major TCN's)
  - (5.3.2.17) 4. NSS
  - (5.3.2.18) 5. TRC Chairman (Major TCN's)
  - (5.3.2.20) 6. G.E. site operation MGR, O.A., S.U.E.A. (Major TCN's)

Ref. 5.9 4.4 For Resolution of Test Exceptions review the following:

- (1.1) 1. TEDR's applicable only to: Specific CAIO, CAIO Flushing, PREOP Test.
- (4.5/1.2) 2. TEDR's purpose: Allow completion of a Test Procedure with some item still open.
- (4.3/1.3) 3. TEDR's approved by the same authority associated with Test Procedure Results.
- (5.1.1.3/3.1.3) 4. Maintain TEDR Log sheet (Appendix "C" of PRET's, SEC. 9.0 of CCMF/CAIO's).
- (3.2.1) 5. All TEDR's signed "Reviewed by LSTE's".
- (4.6) 6. TEDR's may be initiated at any time.
- (5.1.1.6) 7. Attach original TEDR to the STE official procedure copy. (Unless not dispositioned prior to approval of test results).
- (5.1.1.2) 8. Signed by NSS.
- (6.4) 9. TEDR's shall be completed as indicated. (See Attachment 2)

Ref. 5.6 4.5 For Testing Progress Checklist review the following:

- (3.1.1.5) 1. System/Subsystem status checklist is to be kept updated and current.
- (3.1.1.6) 2. Compiling a PRET exception sheet of items which impact specific sections of the PRET.

- (3.1.1.9) 3. Compiling a list of instruments essential to acceptance criteria and attached to Appendix E.
- (5.1.12/4.2.1.14) 4. Items not previously tested which impact testing will be listed as exceptions on the exception sheet.
- (5.1.17) 5. Test exceptions will be documented on TEDR's and logged in Appendix "C".
- ( Attachment 2, 1.A.C) 6. Acceptance criteria is clearly stated and with a tolerance that meets the requirements of applicable design documents.
- (Attachment 4 Note:) 7. (Configuration Control Change Paper) list each open item separately with a statement as to how this item will impact the PRET Test Results.
- (Ref. 5.8) 4.6 For Supplemental Testing Review the Following:
  - (3.1.1/3.2) 1. LSTE approval req'd prior to conducting a trial run test or retesting.
  - (5.2.1/3.1.2) 2. STF number to be entered on the procedure approval sheet in the "STF Stamped Block".
  - (4.3) 3. Following situations requires the use of STF's.
    - (4.3.2.1) 1. Test Stop/Restarts where initial conditions Pre Red's, or precautions must be reverified.
    - (4.3.2.2) 2. Failure to meet acceptance criteria during initial testing.
    - (4.3.2.3) 3. Any preventive or corrective maintenance conducted which affects previously completed tests.
    - (4.2.3.4) 4. Any design change work that affects completed tests.
  - (5.2) 4. Complete required entries on the form. For steps that are not applicable, enter "N/A" & date. Obtain LSTE approval signature.
  - (5.2.1) 5. Attach a copy of the completed STF to the procedure.
  - (5.4) 6. All Test Data must be retained and filed with test results, regardless if superceded, original or unsatisfactory results.
- (Ref. 5.10) 4.7 For Test Analysis Report Review the Following:
  - (3.1.1/3.1.2) 1. All problems encountered during testing are required to be documented on the test analysis report.

- (3.1.3) 2. Test analysis report is to address the following:
- (3.1.3.1) 1. Section 1 - Purpose and objectives
  - (3.1.3.2) 2. Section 2 - Order in which the test was performed
  - (3.1.3.3) 3. Section 3 - Acceptance criteria from section 8 of the procedure and how it was met.
  - (3.1.3.4) 4. Section 4 - Problem encountered
  - (3.1.3.5) 5. Section 5 - Open TEDR's
  - (3.1.3.6) 6. Section 6 - Unresolved items: NCR, Sur. Finding, Audit Finding, NRC open items. All hold tags must be addressed.
  - (3.1.3.7) 7. Section 7 - Verification that all design change Doc. issued since the release for perfor. have been reviewed and impact addressed.
  - (3.1.3.8) 8. Section 8 - Temp. Mods. that remain in place.
  - (3.1.3.9) 9. Section 9 - NRC commitments resolved during testing
  - (3.1.3.10) 10. Section 10 - A statement to the fact that all conditional releases have been cleared.
- (3.2.3) 3. The TAR is included when the procedure results are submitted for TRC approval.
- (5.1.2) 4. TAR to be generated within 10 working day of PRET completion.
- (5.1.4) 5. TAR to be attached to Appendix "D" of the PRET.

#### 5.0 REFERENCES

- 5.1 PQAP 9.706, Rev. 1
- 5.2 FSAR Chapter 17, amend. 35
- 5.3 FSAR Chapter 14, amend. 43
- 5.4 SUM, Rev. 22
- 5.5 S.I. 4.5.1.01 Rev. 3, Admin. controls of S/U originated
- 5.6 S.I. 8.1.0.01 Rev. 6, Testing Progress Checklist
- 5.7 S.I. 8.4.2.01 Rev. 4, PREOP Procedure Preparation
- 5.8 S.I. 8.4.2.03 Rev. 1, Supplemental Testing
- 5.9 S.I. 8.4.2.04 Rev. 1, Resolutions of Test Exceptions
- 5.10 S.I. 8.4.2.05 Rev. 1, PRET. Test Analysis Report

#### 6.0 ATTACHMENTS

- 6.1 Response time testing surveillance procedures
- 6.2 Instruction for completing a TEDR
- 6.3 Individual training record for test data reviewers



<u>Preop</u>	<u>RTT Surveillance</u>
1. PRET.C7100.001	44.000.05 44.000.06 44.000.07 44.000.08 44.000.15 44.000.18 44.000.11
2. PRET.A7100.001	44.000.40 44.000.41
3. PRET.G3300.001	44.000.43 44.000.44 44.000.46
4. PRET.E4100.001	44.000.48 44.000.49
5. PRET.E1100.001	44.000.54 44.000.55 44.000.56
6. PRET.B2100.001	44.000.33 44.000.34 44.000.37 44.000.57 44.000.58
7. PRET.T4100.001	44.001.26 44.000.42



STARTUP FORM 8.8 (Rev. 0)  
 (11-23-82)

TEST EXCEPTION DISPOSITION REPORT (TEDR)

ENRICO FERMI ATOMIC POWER PLANT - UNIT 2

**PART A DESCRIPTION**

Procedure No.: ① Revision No.: ② TEDR No.: ③

<input type="checkbox"/> Deferred Testing ④					
Affected Procedure Steps					
⑤					

<input type="checkbox"/> Unsatisfactory Test Results ④					
Affected Procedure Steps					
⑤					

Reason: ⑥

Proposed Disposition: ⑦

Expected Disposition Date: ⑧

Submitted: ⑨ Date STE Reviewed: ⑩ Date Nuclear Shift Superv. Date

**PART B DISPOSITION**

Reference Documents associated with this disposition:

- |   |   |
|---|---|
| ⑪ <input type="checkbox"/> PN-21's: _____         | ⑭ <input type="checkbox"/> DCP's: _____ |
| ⑫ <input type="checkbox"/> Punchlist Cards: _____ | ⑮ <input type="checkbox"/> SFR's: _____ |
| ⑬ <input type="checkbox"/> DCN/DCR/FMR's: _____   | ⑯ <input type="checkbox"/> Other: _____ |

The following attached documents satisfactorily dispositioned this Test Exception:

- |   |             |
|---|-------------|
| ⑰ <input type="checkbox"/> Supplemental Test Forms: _____ | Comments: ⑳ |
| ⑱ <input type="checkbox"/> Test Change Notice: _____      |             |
| ⑲ <input type="checkbox"/> 7.8 No.s: _____                |             |
| ⑳ <input type="checkbox"/> Other: _____                   |             |

Submitted: ㉑ Date STE Reviewed: ㉒ Date LSTE

**PART C DISPOSITION APPROVAL**

- |   |                  |      |
|---|------------------|------|
| ㉓ <input type="checkbox"/> Submitted for Approval with Test Results   | STE              | Date |
| ㉔ <input type="checkbox"/> Technical Review Committee (TRC) Approved: | TRC Chairman     | Date |
| ㉕ <input type="checkbox"/> Startup Engineer Approved:                 | Startup Engineer | Date |

PART A: DESCRIPTION

- Block 1: Enter the applicable test procedure number.
- Block 2: Enter the test procedure revision number.
- Block 3: Enter the TEDR number. This will be the number from the TEDK Log Sheet (Attachment 1 or 2) attached to the test procedure.
- Block 4: Check applicable boxes. If both deferred testing and unsatisfactory test results are involved with this Test Exception, check both boxes.
- Block 5: Enter the affected procedure steps in the boxes checked. If an entire section or subsection is affected, then entering the section or subsection number is all that is required.
- Block 6: Enter a brief reason for initiating this Test Exception.
- Block 7: Enter a proposed disposition, if known. If unknown, then make that entry.
- Block 8: Enter your estimate of when this Test Exception will be dispositioned.
- Block 9: Startup Test Engineer signature and date.
- Block 10: Nuclear Shift Supervisor signature and date.

PART B: DISPOSITION

- Block 11: If PN-21's were used, check this block and enter numbers.
- Block 12: If PLC's were used, check this block and enter numbers.
- Block 13: If DCN/DCR/FMR's were used, check this block and enter numbers.
- Block 14: If DCP's were used, check this block and enter numbers.
- Block 15: If SFR's were used, check this block and enter numbers.
- Block 16: If other reference documents support this disposition, check this box and enter document title and number.
- Block 17: If Supplemental Test Forms were used to complete testing, check this box and enter the STF number(s). Attach them to the TEDR.

Block 18: If TCN's were to complete testing, check this block, enter numbers, and attach copies.

Block 19: If 7.8's were used to complete TEDR, check this block, enter numbers, and attach copies.

Block 20: If other documents were used, check this block, enter title of document, document numbers, and attach to the TEDR.

NOTE

Check all applicable boxes and attach all supporting documents. Those listed as reference documents need not be attached. Where 7.8's were used, the associated test forms must be attached for review and approval of the TEDR.

Block 21: Enter any applicable comments pertaining to this disposition. Enter the type 4 punchlist number, if applicable.

Block 22: STE signature and date.

Block 23: Lead Startup Test Engineer signatures and date.

PART C: DISPOSITION APPROVAL

Block 24, Check applicable block. This is based on the authority that  
25, and approved the procedure test results. Obtain approval signatures.  
26 If the disposition is completed prior to approval of test results,  
check block 24 only.

INDIVIDUAL TRAINING  
RECORD FOR TEST DATA REVIEWERS

Name \_\_\_\_\_

2.0 Prerequisites for Test Data Review	Signature	Date
2.1 Read the following:		
1. PQAP 9.128 Rev. _____	_____	_____
2. PQAP 9.706 Rev. _____	_____	_____
3. Startup Manual Rev. _____	_____	_____
4. FSAR CH. 14.1 Rev. _____	_____	_____
5. FSAR CH. 17.2 Rev. _____	_____	_____
6. S.I. 8.4.2.05 Rev. _____	_____	_____
7. S.I. 4.5.1.01 Rev. _____	_____	_____
8. S.I. 8.4.2.01 Rev. _____	_____	_____
9. S.I. 8.4.2.04 Rev. _____	_____	_____
10. S.I. 8.4.2.03 Rev. _____	_____	_____
11. S.I. 8.1.0.01 Rev. _____	_____	_____
2.2 Reviewed the following:		
1. Generic Test Procedures	_____	_____
2. CAIO Test Procedures	_____	_____
3. CCMF Test Procedures	_____	_____
4. PREOP Test Procedures	_____	_____
5. STARTUP Test Procedures	_____	_____
6. P.O.M. 41.000.11 Rev. _____	_____	_____
7. P.O.M. 46.000.11 Rev. _____	_____	_____
8. MI-IC-3000 Rev. _____	_____	_____
2.3 Familiarize oneself with the Test Data Review area within Q.A.	_____	_____
2.4 Orientated with Startup Complex and Test Personnel.	_____	_____
2.5 Familiarized with the Startup Resource Center.	_____	_____
2.6 Familiarized with the S.A.C. area.	_____	_____

REVIEWED BY \_\_\_\_\_ DATE \_\_\_\_\_

## 1.0 PURPOSE AND RESPONSIBILITIES FOR TEST DATA REVIEW

- |  |  |
|--|--|
| Ref. 5.1, (Intro)<br>Ref. 5.2, (17.2.11) | 1.1 The O.A. Section is responsible for reviewing Test Packages to assure test results meet the acceptance criteria...(by means of) comparing the recorded test data to the acceptance criteria values listed in the Test Procedure. |
| Ref. 5.3<br>(14.1.1.2.H)                 | 1.2 O.A.... reviews quality-related aspects of test results.   |
| Ref. 5.4<br>(4.12.1)                     | 1.3 O.A. reviews selected portions of completed test data to assure that records are complete.   |
| Ref. 5.1<br>(6.1)                        | 1.4 ... A sufficient number of Test Packages are reviewed to establish the credibility of Testing Program Activities and verify the accuracy of the Test Data.   |

## 2.0 PREREQUISITES FOR TEST DATA REVIEW

### 2.1 Read and document the following:

- |                      |                   |
|----------------------|-------------------|
| 1. PQAP 9.128        | 7. S.I. 4.5.1.01  |
| 2. PQAP 9.706        | 8. S.I. 8.4.2.01  |
| 3. Startup Manual    | 9. S.I. 8.4.2.04  |
| 4. FSAR Chapter 14.1 | 10. S.I. 8.4.2.03 |
| 5. FSAR Chapter 17.2 | 11. S.I. 8.1.0.01 |
| 6. S.I. 8.4.2.05     |                   |

### 2.2 Review and document the following:

- |                            |                            |
|----------------------------|----------------------------|
| 1. Generic Test Procedures | 5. Startup Test Procedures |
| 2. CAIO Test Procedures    | 6. P.O.M. 41.000.11        |
| 3. CCMF Test Procedures    | 7. P.O.M. 46.000.11        |
| 4. Preop Test Procedures   | 8. MI-IC-3000              |

### 2.3 Familiarize oneself with the test data review area within QA and document:

1. Documentation used
2. Logging system
3. System files

### 2.4 Physically orient oneself with the S/U complex and testing personnel and document:

1. LSTE's
2. S.T.E's



2.5 Familiarize oneself with the S/U Resource Center and document:

1. S.R.C. Technician
2. Files
3. Filing System

2.6 Familiarize oneself with the S.A.C. area and document:

1. S.A.C.
2. Files

(Ref. 5.4) 3.0 GUIDELINES FOR GENERIC CA10 TEST DATA REVIEW

3.1 While reviewing 7.8's the following items are to be reviewed for:

- (4.7.1 ) 1. All "item numbers" have been signed as complete or deleted.
- (4.7.1/7.6.2) 2. The "Reviewed by" and "Approved by" are signed.
- (7.6.4) 3. Test procedures recorded have the current revision number listed.
- (7.6.1.) 4. Compare the item numbers with the data sheets to ensure all items have been tested as stated.
- (4.7.1/7.6.2) 5. (QA-1 7.8's only) "QC Witness Required" or "No QC Required" has been stamped on the form.  
  - L For items that require QC Witness, complete a "QA witness point status" form (Attachment 4) and give to the Lead QC Inspector.
6. Upon completion of the above, stamp the 7.8's with the "QA Reviewed" stamp.

3.2 While reviewing Test Data Forms, the following items are to be reviewed for:

- (7.6.4) 1. Data forms are from the current revision of the procedure being tested.
- (7.6.5) 2. All blanks are complete (either with Data or N/A).
- (7.6.5) 3. Comments or remarks are identifiable to a particular step, referenced to the Punchlist No., M.D.L. etc, or are self explanatory.
- (4.9.1) 4. Where acceptance values are given on the Data Sheets, compare values recorded to the requirements. If different, item should have an explanation.



3.3 Upon completion of items 3.1 and 3.2, the following items are to be completed:

Make copies of the following:

- . Master Instrument List
- . Turnover Control-Cable Listing
- . System Boundary Package (Section 2.0)
- . F.O.S. (Functional Operating Sketch) Valve Cross Reference List (As necessary)
- . Associated System Drawings (if necessary).
  1. Utilizing the copy of the Master Instrument List and the I&C 7.8's, highlight the instruments that have been tested.
  2. Utilizing the copy of the Turnover Control-Cable List and the Electrical and I&C 7.8's, highlight the cables that have been tested.
  3. Utilizing the copy of the System Boundary Package and the Mechanical and Electrical 7.8's, highlight the equipment that has been tested.
  4. Utilizing the copies of the System Drawings and the above highlighted items, highlight the drawings to reflect all the items tested.
  5. After all the Data has been reviewed and items highlighted, review all items from above to ensure all the items have been tested.
  6. Prepare a list of items that have not been tested. (Taken from items not highlighted).

(7.6.5/7.7.1)

(Ref. 5.4) 4.0 GUIDELINES FOR PREOPERATIONAL TEST RESULTS DATA REVIEW

4.1 The following are basic requirements to be reviewed for:

- |  |   |
|--|---|
| <p>(8.3.1/4.5.3)</p> <p>(4.5.3)</p> <p>(4.5.4)</p> <p>(4.7.1)</p> <p>(4.7.1)</p> <p>(8.4.4/4.7.1)</p> <p>(4.7.1)</p> | <ol style="list-style-type: none"> <li>1. Procedures are approved</li> <li>2. TCN's are approved</li> <li>3. TCN's are included in package</li> <li>4. Trial runs must be documented and number of attempts made indicated.</li> <li>5. No correction fluids or other means of masking data is permitted.</li> <li>6. O.A. to be notified of witness points.</li> <li>7. Master copy of Recorded Data, Test Results, Test Analysis Reports are reviewed by LSTE.</li> </ol> |
|--|---|

- (4.7.3) 8. M&TE must be documented.
- (8.1) 9. Test Analysis Report attached to completed test package.
- (8.2) 10. TCN are recorded, reviewed & approved.
- (8.3.2) 11. Data sheets completed, signed & dated by STE & other personnel taking the data.
- (8.3.2) 12. Temporary Changes will be documented and following testing completion, be removed.
- (8.3.2) 13. Retesting performed on test exception are to be documented.
- (8.3.3) 14. Procedure modifications are documented and become part of final test procedure.
- (8.3.3) 15. TCN reviewed & approved by appropriate people.
- (8.3.3) 16. TCN verifies no omission of FSAR Ch. 14 commitments.
- (8.3.4/8.4.5) 17. Test results package will consist of an evaluation of the following:
  - 1. Original data sheets and data collected.
  - 2. Preoperational test approval/release for performance.
  - 3. TCN's
  - 4. Attached pertinent logs & charts
  - 5. Completed preoperational test procedure
  - 6. Test Analysis Report
  - 7. CAIO test results for CAIO testing conducted during Preop testing.
- (8.4.3) 18. In some cases, portions of test procedure may be completed during CAIO pending:
  - 1. Test Procedure is the same.
  - 2. Appropriate documentation has been referenced and included in the Data Package as shown in Appendix E Index.
  - 3. Test was performed and/or witnessed by authorized STE/STT.
- (8.4.4) 19. During the test, the Test Data will be accurately and properly recorded on appropriate Data Sheets.
- (8.4.4) 20. Person actually taking Data shall FIRST sign his full name, initial & date at the first sign off point, THEN may use initials on subsequent signoffs.
- (8.4.4) 21. If it is not possible to complete a test procedure the following action shall be taken:
  - 1. Noted at the step not performed as an exception.
  - 2. Recorded in the Test Exception section.
  - 3. TEDR issued

- (8.4.4) 22. To re-release the test to complete the not tested steps, a STF shall be issued.
- (8.4.4) 23. STF's will contain the following:
1. Pre-requisites
  2. Initial conditions
  3. Specify the sections of the test to be performed.
- (8.4.4) 24. STF's are to remain with and become part of test package.
- (8.4.4) 25. All items found out of spec. shall be flagged in the test report.
- (Ref. 5.7) 4.2 For Procedure Adequacy Review the Following:
- (4.1.4.2.A) 1. Each Temp. circuit alteration will be logged in Appendix B.
- (4.1.5.1) 2. Special test equip. must be listed with:
- Name
  - Model No. (when possible)
  - Req'd Range
  - Accuracy
- (4.1.6.3) 3. "Initial conditions" step:
- "Exceptions listed in the TRP attending this section have been cleared".
- (4.1.6.18) 4. All supporting system/functions (Instrument air, cooling water, lubrication, etc.) will be available from the permanent source. If not available a TCN is req'd.
- (4.1.6.21) 5. S.O.P. valve line up Data Sheets must be attached to the procedure in Appendix E.
- (4.1.6.23) 6. A copy of the response time testing surveillance procedure is to be attached to the PRET. (Attachment 1 identifies PRET vs. Surv. Test No's.).
- (4.1.6.24) 7. Sign off (Initials) at each step.
- (4.1.6.26) 8. The person actually making a procedure entry shall print his full name, sign his full name, and initial/date the first sign off entry he makes.

(4.1.9.2)

9. Include Base Line Data for pumps in accordance with ASME code XI for the following pumps.

P4400 - EECW  
E2100 - CS  
E4100 - HPCI & Booster  
E5100 - RCIC  
E1151 - RHR SW  
P4500 - EESW  
R3001 - DGSW  
C4100 - SBLC  
E1100 - RHR  
T4102 - CCHVAC

(Ref. 5.5)

- 4.3 For control of procedures and TCN's review the following:

(3.1.6.1)

1. PRET's become effective on the date of approval and are to be utilized from the next working day on.

(3.2.1.2/3.2.1.4)

2. TCN number is to be entered in the Test Procedure at the point of the change that is to be made.

(3.2.1.3)

3. TCN's are to be approved prior to implementation.

(3.2.1.4)

4. TCN's are to be attached to the procedure.

(3.2.2.2)

5. LSTE's are to sign TCN's.

(3.2.6)

6. TCN's become effective at the time of approval.

(4.1.1)

7. Procedure Revision Summary will indicate pages affected by past revision.

(4.2.1)

8. Approved Procedures will be issued on white paper.

(4.2.2/4.2.13)

9. Approved Procedures will be stamped in red ink "TRC Approved" on the approval sheet only.

(4.2.4/4.2.13)

10. All test procedures will be stamped in red ink "Controlled" (After 1-10-83)

(4.2.13/4.2.10)

11. Each "Released for Performance" procedure will have the "TCN Stamp" on the approval sheet and/or "Procedure Index of Change Documents" (form 4.9W)

(4.2.13/4.2.11)

12. Each page will be stamped "Official Copy - STE" in red ink.

(4.2.14)

13. Replacement or supplemental pages are issued by supplemental test forms or TCN's. "Official Copy - STE" stamp applies to these forms also.

(4.4.2.1)

14. Major TCN's are reviewed and approved by the same people specified for the original procedure.

- (4.4.3.6) 15. Minor TCN's requires the NSS only.
- (4.4.4.2) 16. All TCN's will be noted in the righthand margin of the procedure next to the affected steps. Complete page change/page replacement TCN's will have the TCN number in the upper righthand corner instead of revision number.
- 17. TCN required signatures:
  - (5.3.2.11) 1. Individual entering changes in the procedure
  - (5.3.2.15) 2. STE initiating TCN
  - (5.3.2.16) 3. LSTE (Major TCN's)
  - (5.3.2.17) 4. NSS
  - (5.3.2.18) 5. TRC Chairman (Major TCN's)
  - (5.3.2.20) 6. G.E. site operation MGR, O.A., S.U.E.A. (Major TCN's)

Ref. 5.9 4.4 For Resolution of Test Exceptions review the following:

- (1.1) 1. TEDR's applicable only to: Specific CAIO, CAIO Flushing, PREOP Test.
- (4.5/1.2) 2. TEDR's purpose: Allow completion of a Test Procedure with some item still open.
- (4.3/1.3) 3. TEDR's approved by the same authority associated with Test Procedure Results.
- (5.1.1.3/3.1.3) 4. Maintain TEDR Log sheet (Appendix "C" of PRET's, SEC. 9.0 of CCMF/CAIO's).
- (3.2.1) 5. All TEDR's signed "Reviewed by LSTE's".
- (4.6) 6. TEDR's may be initiated at any time.
- (5.1.1.6) 7. Attach original TEDR to the STE official procedure copy. (Unless not dispositioned prior to approval of test results).
- (5.1.1.2) 8. Signed by NSS.
- (6.4) 9. TEDR's shall be completed as indicated. (See Attachment 2)

Ref. 5.6 4.5 For Testing Progress Checklist review the following:

- (3.1.1.5) 1. System/Subsystem status checklist is to be kept updated and current.
- (3.1.1.6) 2. Compiling a PRET exception sheet of items which impact specific sections of the PRET.



- (3.1.1.9) 3. Compiling a list of instruments essential to acceptance criteria and attached to Appendix E.
- (5.1.12/4.2.1.14) 4. Items not previously tested which impact testing will be listed as exceptions on the exception sheet.
- (5.1.17) 5. Test exceptions will be documented on TEDR's and logged in Appendix "C".
- ( Attachment 2, 1.A.C) 6. Acceptance criteria is clearly stated and with a tolerance that meets the requirements of applicable design documents.
- (Attachment 4 Note:) 7. (Configuration Control Change Paper) list each open item separately with a statement as to how this item will impact the PRET Test Results.
- (Ref. 5.8) 4.6 For Supplemental Testing Review the Following:
- (3.1.1/3.2) 1. LSTE approval req'd prior to conducting a trial run test or retesting.
- (5.2.1/3.1.2) 2. STF number to be entered on the procedure approval sheet in the "STF Stamped Block".and/or "Procedure Index of Change Documents". (form 4.9W)
- (4.3) 3. Following situations requires the use of STF's.
  - (4.3.2.1) 1. Test Stop/Restarts where initial conditions Pre Red's, or precautions must be reverified.
  - (4.3.2.2) 2. Failure to meet acceptance criteria during initial testing.
  - (4.3.2.3) 3. Any preventive or corrective maintenance conducted which affects previously completed tests.
  - (4.2.3.4) 4. Any design change work that affects completed tests.
- (5.2) 4. Complete required entries on the form. For steps that are not applicable, enter "N/A" & date. Obtain LSTE approval signature.
- (5.2.1) 5. Attach a copy of the completed STF to the procedure.
- (5.4) 6. All Test Data must be retained and filed with test results, regardless if superceded, original or unsatisfactory results.
- (Ref. 5.10) 4.7 For Test Analysis Report Review the Following:
- (3.1.1/3.1.2) 1. All problems encountered during testing are required to be documented on the test analysis report.



- (3.1.3) 2. Test analysis report is to address the following:
- (3.1.3.1) 1. Section 1 - Purpose and objectives
  - (3.1.3.2) 2. Section 2 - Order in which the test was performed
  - (3.1.3.3) 3. Section 3 - Acceptance criteria from section 8 of the procedure and how it was met.
  - (3.1.3.4) 4. Section 4 - Problem encountered
  - (3.1.3.5) 5. Section 5 - Open TEDR's
  - (3.1.3.6) 6. Section 6 - Unresolved items: NCR, Sur. Finding, Audit Finding, NRC open items. All hold tags must be addressed.
  - (3.1.3.7) 7. Section 7 - Verification that all design change Doc. issued since the release for perfor. have been reviewed and impact addressed.
  - (3.1.3.8) 8. Section 8 - Temp. Mods. that remain in place.
  - (3.1.3.9) 9. Section 9 - NRC commitments resolved during testing
  - (3.1.3.10) 10. Section 10 - A statement to the fact that all conditional releases have been cleared.
- (3.2.3) 3. The TAR is included when the procedure results are submitted for TRC approval.
- (5.1.2) 4. TAR to be generated within 10 working day of PRET completion.
- (5.1.4) 5. TAR to be attached to Appendix "D" of the PRET.

## 5.0 REFERENCES

- 5.1 PQAP 9.706, Rev. 1
- 5.2 FSAR Chapter 17, amend. 35
- 5.3 FSAR Chapter 14, amend. 43
- 5.4 SUM, Rev. 22
- 5.5 S.I. 4.5.1.01 Rev. 3, Admin. controls of S/U originated
- 5.6 S.I. 8.1.0.01 Rev. 6, Testing Progress Checklist
- 5.7 S.I. 8.4.2.01 Rev. 4, PREOP Procedure Preparation
- 5.8 S.I. 8.4.2.03 Rev. 1, Supplemental Testing
- 5.9 S.I. 8.4.2.04 Rev. 1, Resolutions of Test Exceptions
- 5.10 S.I. 8.4.2.05 Rev. 1, PRET. Test Analysis Report

## 6.0 ATTACHMENTS

- 6.1 Response time testing surveillance procedures
- 6.2 Instruction for completing a TEDR
- 6.3 Individual training record for test data reviewers
- 6.4 O.A. Witness Point Status

<u>Preop</u>	<u>RTT Surveillance</u>
1. PRET.C7100.001	44.000.05 44.000.06 44.000.07 44.000.08 44.000.13 44.000.18 44.000.11
2. PRET.A7100.001	44.000.40 44.000.41
3. PRET.G3300.001	44.000.43 44.000.44 44.000.46
4. PRET.E4100.001	44.000.48 44.000.49
5. PRET.E1100.001	44.000.54 44.000.55 44.000.56
6. PRET.B2100.001	44.000.33 44.000.34 44.000.37 44.000.57 44.000.58
7. PRET.T4100.001	44.001.26 44.000.42

STARTUP FORM 8-B (Rev. 6) (11-23-82)		TEST EXCEPTION DISPOSITION REPORT (TEDR)	
<b>ENRICO FERM1 ATOMIC POWER PLANT - UNIT 2</b>			
<b>PART A DESCRIPTION</b>			
Procedure No.: _____	①	Revision No.: _____	②    TEDR No.: _____
<input type="checkbox"/> Deferred Test Log		④	
Affected Procedure Steps		<input type="checkbox"/> Unsatisfactory Test Results	
⑤		④	
Reason: _____		⑥	
Proposed Disposition: _____		⑦	
Expected Disposition Date: _____		⑧	
Submitted: _____	⑨	Reviewed: _____	⑩
STL	Date	Nuclear Shift Superv.	Date
<b>PART B DISPOSITION</b>			
Reference Documents associated with this disposition:			
① <input type="checkbox"/> FN-21's: _____	④ <input type="checkbox"/> DCP's: _____		
② <input type="checkbox"/> Punchlist Cards: _____	⑤ <input type="checkbox"/> SFR's: _____		
③ <input type="checkbox"/> DCN/DCR/FNR's: _____	⑥ <input type="checkbox"/> Other: _____		
The following attached documents satisfactorily dispositioned this Test Exception:			
⑦ <input type="checkbox"/> Supplemental Test Forms: _____		Comments: _____	
⑧ <input type="checkbox"/> Test Change Notice: _____			
⑨ <input type="checkbox"/> T.B. No.s: _____			
⑩ <input type="checkbox"/> Other: _____			
Submitted: _____	⑪	Reviewed: _____	⑫
STL	Date	LSTL	Date
<b>PART C DISPOSITION APPROVAL</b>			
⑬ <input type="checkbox"/> Submitted for Approval with Test Results			
⑭ <input type="checkbox"/> Technical Review Committee (TRC) Approved: _____		_____ TRC Chairman _____	
⑮ <input type="checkbox"/> Startup Engineer _____		Approved: _____ Startup Engineer _____	

**PART A: DESCRIPTION**

- Block 1: Enter the applicable test procedure number.
- Block 2: Enter the test procedure revision number.
- Block 3: Enter the TEDR number. This will be the number from the TEDK Log Sheet (Attachment 1 or 2) attached to the test procedure.
- Block 4: Check applicable boxes. If both deferred testing and unsatisfactory test results are involved with this Test Exception, check both boxes.
- Block 5: Enter the affected procedure steps in the boxes checked. If an entire section or subsection is affected, then entering the section or subsection number is all that is required.
- Block 6: Enter a brief reason for initiating this Test Exception.
- Block 7: Enter a proposed disposition, if known. If unknown, then make that entry.
- Block 8: Enter your estimate of when this Test Exception will be dispositioned.
- Block 9: Startup Test Engineer signature and date.
- Block 10: Nuclear Shift Supervisor signature and date.

**PART B: DISPOSITION**

- Block 11: If PN-21's were used, check this block and enter numbers.
- Block 12: If PLC's were used, check this block and enter numbers.
- Block 13: If DCN/DCR/FTR's were used, check this block and enter numbers.
- Block 14: If DCP's were used, check this block and enter numbers.
- Block 15: If SFR's were used, check this block and enter numbers.
- Block 16: If other reference documents support this disposition, check this box and enter document title and number.
- Block 17: If Supplemental Test Forms were used to complete testing, check this box and enter the STF number(s). Attach them to the TEDR.

Block 18: If TCN's were to complete testing, check this block, enter numbers, and attach copies.

Block 19: If 7.8's were used to complete TEDR, check this block, enter numbers, and attach copies.

Block 20: If other documents were used, check this block, enter title of document, document numbers, and attach to the TEDR.

NOTE

Check all applicable boxes and attach all supporting documents. Those listed as reference documents need not be attached. Where 7.8's were used, the associated test forms must be attached for review and approval of the TEDR.

Block 21: Enter any applicable comments pertaining to this disposition. Enter the type 4 punchlist number, if applicable.

Block 22: STE signature and date.

Block 23: Lead Startup Test Engineer signatures and date.

PART C: DISPOSITION APPROVAL

Block 24, Check applicable block. This is based on the authority that  
25, and approved the procedure test results. Obtain approval signatures.  
26 If the disposition is completed prior to approval of test results,  
check block 24 only.

INDIVIDUAL TRAINING  
RECORD FOR TEST DATA REVIEWERS

Name \_\_\_\_\_

2.0 Prerequisites for Test Data Review

Signature \_\_\_\_\_

Date \_\_\_\_\_

2.1 Read the following:

1. PQAP 9.128 Rev. \_\_\_\_\_
2. PQAP 9.706 Rev. \_\_\_\_\_
3. Startup Manual Rev. \_\_\_\_\_
4. FSAR CH. 14.1 Rev. \_\_\_\_\_
5. FSAR CH. 17.2 Rev. \_\_\_\_\_
6. S.I. 8.4.2.05 Rev. \_\_\_\_\_
7. S.I. 4.5.1.01 Rev. \_\_\_\_\_
8. S.I. 8.4.2.01 Rev. \_\_\_\_\_
9. S.I. 8.4.2.04 Rev. \_\_\_\_\_
10. S.I. 8.4.2.03 Rev. \_\_\_\_\_
11. S.I. 8.1.0.01 Rev. \_\_\_\_\_

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

2.2 Reviewed the following:

1. Generic Test Procedures
2. CAIO Test Procedures
3. CCMF Test Procedures
4. PREOP Test Procedures
5. STARTUP Test Procedures
6. P.O.M. 41.000.11 Rev. \_\_\_\_\_
7. P.O.M. 46.000.11 Rev. \_\_\_\_\_
8. MI-IC-3000 Rev. \_\_\_\_\_

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

2.3 Familiarize oneself with the  
 Test Data Review area within Q.A.

\_\_\_\_\_

2.4 Orientated with Startup Complex  
 and Test Personnel.

\_\_\_\_\_

2.5 Familiarized with the Startup  
 Resource Center.

\_\_\_\_\_

2.6 Familiarized with the S.A.C.  
 area.

\_\_\_\_\_

REVIEWED BY \_\_\_\_\_ DATE \_\_\_\_\_



## Page 15 of 15

ATTACHMENT 4

Detroit  
Edison

F. E. AGOSTI  
NOV 10 1983

Date: November 9, 1983  
NA-83-2046

To: F. E. Agosti  
Manager - Nuclear Operations

From: M. J. Gavira *MJG*  
General Supervisor  
Information Systems

NOTED	_____
FILE	_____
CIRC	_____
TOSC	_____

Subject: Administrative Procedure Review

Ref: SU-12,096, Agosti to Gavin, et.al, 10/28/83, same subject

We have performed a review of our procedures, as your directed in the referenced correspondence, and find that we instituted no procedural revisions to specifically support startup and test activities. We have, however, instituted several activities which generically support your activity.

Specifically, we have established the "void after seven days" concept for design documents. This forces user personnel to be cognizant of the status of documents used in the startup and test activity.

We also initiated a 100% review of drawings in your Startup satellite during August to assure they are up-to-date. Results are not yet available, although your file should be at the highest accuracy level since its establishment.

Hopefully, this will be helpful in your effort to assure a sound startup and test program.

MJG:dls

DATE: December 2, 1983  
(F2S83-6595)

TO: F. E. Agosti, Manager  
Startup Testing

FROM: P. P. Acharya, Superintendent  
System Completion/SCO *P. Acharya*

REFERENCE: F. Agosti Letter #SU-12,096 - Dated 10-23-83

SUBJECT: SCO Administrative Procedure Review

The System Completion Organization, per your referenced letter above, has reviewed their procedures regarding revisions made since January 1982 to the present time, to determine those procedural changes made to improve the Startup Testing Program. The following changes were made to accomplish this:

1. Prior to SCO, work on turned over systems was accomplished utilizing a TRR or RRR which required the Startup Engineers to physically verify work completion prior to signing off on these documents. With the inception of SCO, a new method of work authorization was introduced, known as a Type 3 Punchlist Card. The unusualness of this card as compared to a TRR or RRR was the additional verification signatures required, and not requiring the STE to take time from his busy schedule with Test Procedures to walkdown and verify these work items, which then became the responsibility of the SCE.
2. The creation of the Type 4 Punchlist, which segregated non-physical (software) items from the Type 3 Punchlist. This allowed Startup to track their TEDR's, Temp Mods, etc.
3. The issuance of PN21's to DECo Maintenance to allow the use of their procedures by utilizing their attachment "A", and also the contractors performing Startup(s) valve testing program.
4. The Type 5 Punchlist Card for Cable Tray and conduit tracking and statusing.
5. The inclusion of the Request For Service (RFS) which allowed the SCE to permit system up-keep work. This provided a means of system maintenance and clean-up during the testing phase.
6. Configuration Control procedures were written to establish a means of tracking Design Change Documents issued by Document Control and status these documents so Startup could review open change paper which may affect their system testing.

As you see, numerous revisions have been made and SCO will continually review their procedures and make any necessary changes required to assure an improved Startup Test Program.

cjh/

cc: A. Godoshian  
S. Noetzel  
W. J. Fahrner  
W. R. Holland  
ARMS  
File

Enrico Fermi Unit II Project  
Engineering

F. E. AGOSTI

DEC 13 1983

DATE: December 13, 1983  
EF2-66394

TO: Distribution

FROM: R. A. Vance *P. A. Vance*  
Assistant Project Manager-Engineering

SUBJECT: Assignment of Responsibility for Engineering Review of Pre-operational Test Results

The purpose of this memorandum is to describe in detail the engineering review of Preoperational Test Results. This material will be incorporated as appropriate in Project Procedure 3.30, and in individual group procedures or work instructions if needed.

Attached is a Responsibility Matrix (Attachment #1) for assigning review responsibility to the various Project Engineering groups. The "X's" indicate responsibility to initiate action toward performing their reviews, in accordance with their procedures and as appropriate to the system being tested. An "\*" indicates that specific items throughout the Test Results Package (TRP) will be reviewed based on information in the Test Analysis Report (TAR) and the Test Change Notices (TCN's). Lack of an "X" or "\*" means review would be in response to a specific request from another group, prompted by previous knowledge of the system, or the item may be used as a reference in the course of the review.

Note that the matrix calls out certain portions of the Test Results Package for review. Engineering has not committed to perform a detailed review of each page of the package (although this has been done in a few cases). It is the responsibility of the Startup Test Engineer to do this and call attention to exceptions or problem areas via the Test Analysis Report and Test Exception Disposition Reports (TEDR's). Also, Operational Assurance (OA) reviews the package in detail for deviations from acceptance criteria or other problem areas. Their report is sent to Startup, with a copy to Engineering for appropriate response.

There is obviously a great deal of overlapping interest and responsibility, but the four engineering groups have primary emphasis as follows:

1. System Engineers - System purpose and performance requirements, and licensing requirements.
2. Startup Engineering Assistance (SUEA) - More detailed consideration of actual test performance and test results, from close Field Engineering perspective.
3. Design Engineers (Troy) - Specific design requirements regarding performance parameters (pressure, flow, temperature, voltage, etc).



(Cont)

4. Resident Engineering-Provides design engineering support to SUEA in the Field, as needed for test results reviews.

Either SUEA or System Engineering will set up a meeting soon after each Test Results Package is received to coordinate efforts between the various engineering groups and minimize wasteful duplication of review efforts.

Also attached are the following memoranda and checklists from the various groups, which describe the reviews in more detail:

- Attachment 2: Criteria for Engineering Review by System Engineering and SUEA of Preoperational Test Procedures (Note-The procedures are reviewed prior to performance of the test. These criteria are included for reference.)
- Attachment 3: Engineering Review by System Engineering and SUEA of Test Results Packages.
- Attachment 4: Engineering Review by System Engineering and SUEA of FSAR Relative to Preoperational Test Procedures and Test Results Packages.
- Attachment 5: System Engineering and SUEA PRET Test Results Review Checklist.
- Attachment 6: EF2-66,235 of 10-27-83, Nunley to Vance, "Project Design Review of Startup Test Results Packages (TRP)."
- Attachment 7: Project Design Checklist for TRP Review.

(Note: This memo addresses preoperational test procedures and results (PRET's), which are for QA I safety related systems and certain other major plant systems. Acceptance tests (ACPT's) for the other systems are reviewed by the Startup Engineering Assistance group in Field Engineering; specific requests are made to other engineering groups as needed prior to approval by Engineering.)

CRG:amj

Attachments: 1 - 7 Noted Above

Distribution:

P. P. Acharya	W. J. Fahrner	R. L. Raisanen
W. M. Adair	J. R. Fenton	L. E. Schuerman
F. E. Agosti	L. C. Fron	M. G. Sigetech
T. A. Alessi	A. Godoshian	D. Spiers
C. R. Bacon	R. S. Lenart	J. E. Stalmak
R. W. Barr	E. Lusia	W. M. Street
E. R. Bosetti	W. E. Miller	G. M. Trahey
J. H. Casiglia	T. L. Mintun	SUEA Members
W. F. Colbert	T. S. Nickelson	ARMS
P. V. DeBaeke	S. H. Noetzel	PMO File
O. K. Earle	J. W. Nunley	SUEA File 300.03
L. E. Eix	T. J. O'Keefe	SUEA File 300.14
	G. Overbeck	Doc. Control



RESPONSIBILITY MATRIX

Engineering Review of Test Results Packages

	Responsible for Review		
	SUEA (Resd. Engr)	Sys Engr. NOC	Des. Engr. Troy
<u>Test Results Package (TRP)</u>			
1. Test Analysis Report (TAR) (Appendix D of PRET)	X	X	X
2. Test Change Notices (TCN's) (Included in TRP)	X	X	X
3. Test Exception Disposition Report (TEDR's) (Included in TRP)	X	X	*
4. Supplemental Test Results (Included in TRP)	X	X	
<u>Review Aspects</u>			
5. Test Objectives	X	X	*
6. Test Boundaries	X	X	*
7. Acceptance Criteria	X	X	*
8. All Necessary Data Recorded	X	X	
9. Adequacy of Test Equipment	X	X	
10. Proper Air, Water, Electricity Used	X	X	
<u>References</u>			
11. FSAR: Chap. 14, Major Specific Sections, App. A, App. E.	X	X	X
12. Fermi 2 Technical Specifications	X	X	
13. G. E. Test Specification	X	X	
14. Safety Evaluation Report (SER)	X	X	
15. Design Documents (Drawings, Specifications, Change Paper, etc.			X
16. System Diagrams (P & ID's, One-Line Diagrams, etc.			X
17. Operational Assurance Deviation List From TRP Review by OA.	X	X	

Continued---

RESPONSIBILITY MATRIX

Engineering Review of Test Results Packages

NOTES:

1. An "X" indicates responsibility to initiate action toward performing a review in accordance with procedures and as appropriate to the system being tested.
2. An "\*" indicates that specific items throughout the test results package will be reviewed based on information in the test analysis report and the test change notice.
3. Lack of an "X" or "\*" means review is in response to a specific request from another group, prompted from previous knowledge of the system, or the item may be used as a reference in the course of the review.

CRG:amj

*CRG*  
*12/13/83*

December 13, 1983

Criteria for Engineering Review by System Engineering and  
SUEA of Preoperational Test Procedures

In reviewing Startup preoperational test procedures Engineering will be considering a number of aspects. Each of these aspects will be addressed in the following four ways:

Personnel Safety

Equipment Hazard

Design Intent

Licensing Commitments

The following aspects of the procedures will be reviewed:

1. Test Objectives - Is stated in the beginning of procedure and should be stated prior to major sections or subsections within the procedure.
2. Test Boundaries - Define what is being tested.
3. Scope of Test Relative to Commitments - To insure that test includes all commitments in FSAR and other licensing documents.
4. Acceptance criteria - On what basis will the decision be made that the system is satisfactory.
5. Data sheets are to require recording of values and include acceptable tolerance.
6. Insure that all parameters required for test results review are actually measured and recorded.
7. Review type of test equipment used generally, and especially for unusual or critical measurements.
8. Review quality of air, water, and electricity specified for the test (in some procedures it has been found that air and water purity have not been adequately specified).

(Note: The Engineering review is not necessarily a detailed line-by-line review of each page. This is done by Startup and QA)

CRG:amj

*amj*  
12/21/83

Engineering Review by System Engineering & SUEA of Test Results Packages

The test results package is assembled by the Startup Test Engineer after he has completed his test. It includes a full copy of the test procedure with data blanks filled in, a test analysis report (TAR) which summarizes the test results, Test Change Notices (TCN's), Test Exception Disposition Reports (TEDR's), and other documents pertinent to documenting the successful completion of the tests. The test results packages are often voluminous, sometimes being in excess of several hundred pages. The engineering review of these test results is not necessarily a page-by-page line-by-line review. However, enough of the individual sheets are reviewed in detail to achieve a satisfactory level of confidence regarding the quality of the test.

The engineering review is structured to concentrate on the actual parameters measured and conclusions reached for equipment or system acceptability. Following are the general guidelines for this review:

1. Review the test analysis report (TAR). This is normally a five to twenty page document which gives a summary statement of the successful completion of the test, and also discusses problems that were encountered during the test and how they were dispositioned. This should be the first item reviewed. The TAR is part of the procedure and is called "Appendix D". In some packages it is brought to the front of the package, but in others the reviewer will have to dig down to its location in the procedure.
2. The test procedure was reviewed by Engineering prior to release of the system for test. However, it may be appropriate in reviewing the test results package to review some portions of the procedure relative to the guidelines listed previously.
3. The test change notices should be reviewed to the extent necessary to insure that they did not change the intent of the procedure relative to test results. These are to be listed in the test results package, and may not warrant a detailed review depending on their purposes.
4. Test exceptions or deviations from the approved procedure and TCN's are each to be reviewed by Engineering. These are summarized in the TAR and are detailed in the TEDR's, which describe the problem as well as how it is being dispositioned.
5. The list of discrepancies identified by Operational Assurance is to be reviewed for deviations or exceptions that appear to exist without being covered on TEDR's. These might include values that exceeded allowable tolerances or other technical concerns. (Many of the OA concerns are procedural in nature, such as correct initials and dates. These are important, but are covered in direct communication by OA and Startup.)

December 13, 1983

6. The test results also have to be compared to the FSAR and other licensing documents. Since the procedure has already received this type of review, the only discrepancies that should exist at this point would be covered in test exceptions. For those exceptions which also are not in compliance with the FSAR, a thorough engineering analysis is required on the part of the System Engineer, with support from SUEA and Troy as appropriate. If the results are found acceptable, the rationale for this acceptance must be clearly stated in an Engineering memorandum, along with an explicit statement regarding revising of the FSAR to reflect the new information. Conflicts with other licensing documents would be treated accordingly.
7. Following the review of the test results package, an Engineering memorandum is written consisting of a cover page which contains the approval signatures, and attachments which provide the detail necessary to indicate the degree of review and how problems were resolved. Typically this might consist of two or three typewritten pages by SUEA, along with several brief memorandums and checklists from the System Engineers and Troy to describe their reviews. In the case of deviations from the FSAR, a specific memorandum from System Engineers with their statement of the FSAR revision action should be included.

Reference: Startup Instruction No. 8.4.2.05 - "Test Results Package Preparation/Review."

CRG:amj

*Handwritten signature/initials*

EF2-66394

December 13, 1983

Engineering Review by System Engineering & SUEA of FSAR Relative to  
Preoperational Test Procedures & Test Results Package

1. Chapter 14 will be reviewed in all cases as this chapter is intended to consolidate all test requirements from throughout the FSAR.
2. Major sections of the FSAR relative to the specific system as identified in the table of contents will be reviewed. Appendixes "A" and "E" will be reviewed for Regulatory Guide Commitments and answers to NRC questions.
3. Other portions of the FSAR may also be reviewed as appropriate, as determined from Steps 1 and 2.
4. Documentation of review of the Preoperational Test Procedure accomplished by filling out Comment Control Forms. They are collected by SUEA and forwarded to Startup.
5. Documentation of review of the Test Results Package is accomplished by the Engineering test results approval memorandum. In this memo there are four categories of statements relative to the FSAR:
  - A. Test results are in compliance with FSAR - list major sections reviewed, and a summary statement for each that addresses the pertinent results parameters.
  - B. For results that are not in compliance with the FSAR but are satisfactory, provide rationale for technical acceptability and state how the FSAR will be revised or otherwise addressed. (For areas of disagreement that are not technically acceptable, obviously the system or equipment will have to be modified prior to approval of test results.)
  - C. For values mentioned in the FSAR to describe the system, where the values are not testable or not intended to be tested, it may be beneficial in some cases to explain this in the results approval memo. The purpose of this would be to save time that would otherwise be spent later in answering questions.
  - D. Miscellaneous comments.

CRG:amj

*OK*  
*12/12/83*



SUEA PRET TEST RESULTS REVIEW CHECKLIST

	YES	NO	N/A
1. Final Safety Analysis Report (FSAR) Revision _____ Sections Reviewed: _____ _____ _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were Commitments Met?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If "NO", Are Concerns Identified in Results Memo?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<hr/>			
2. Fermi II Technical Specifications Revision _____ Date _____ Sections Reviewed: _____ _____ _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were Commitments Met?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If "NO", Are Concerns Identified in Results Memo?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<hr/>			
3. USNRC Regulatory Guides Reg. Guides Reviewed: _____ Rev. _____ Rev. _____ Rev. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were Commitments Met?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If "NO", Are Concerns Identified in Results Memo?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<hr/>			
4. Test Specification/Instruction DECO # _____ Rev. _____ G. E. # _____ Rev. _____ Sections _____ _____ _____ _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SUEA PREY TEST RESULTS REVIEW CHECKLIST

	YES	NO	N/A
4. Were Commitments Met?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If "NO", Are Concerns Identified in Results Memo?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

---

5. Safety Evaluation Report (SER)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Date _____			
Were Commitments Met?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If "NO", Are Concerns Identified In Results Memo?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

---

6. Other Documents Reviewed:

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

---

	YES	NO	N/A
7. Test Procedure and Results			
A. Are test objectives and boundaries well defined?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. Have required values been identified on data sheets including acceptable tolerance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C. Has test equipment been identified in proper sections and utilized?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D. Have Test Change Notices been reviewed to assure change of intent was not incorporated into procedure?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E. Have Test Exceptions or deviations been evaluated for impact to results?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F. Has deferred testing been documented and evaluated for impact or retest requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SUEA PRET TEST RESULTS REVIEW CHECKLIST

- |  | YES                      | NO                       | N/A                      |
|--|--------------------------|--------------------------|--------------------------|
| G. Does the Test Analysis Report (TAR) adequately summarize and describe the test and the problems encountered (to include disposition)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| H. Have Comment Control sheets been issued to Startup concerning testing or procedural problems?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I. Have all engineering concerns been addressed in Results Memo?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

8. Remarks: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

9. Reviewed by: \_\_\_\_\_

Date: \_\_\_\_\_

CRG:amj

*CRC*  
*12/18/83*

Detroit  
Edison

ENRICO FERMI UNIT 2 PROJECT  
PROJECT DESIGN

October 27, 1983

EF2-66,235

To: R.A. Vance  
Assistant Project Manager-Engineering

From: J.W. Nunley, Director *JWN*  
Project Design

Subject: Project Design Review of Startup Test Result  
Packages (TRPs)

Project Design will provide a review of Startup Test Result Packages (TRPs). Our scope of involvement, method of approach, and basic procedure for reviewing each TRP is outlined below:

I. Scope of Involvement

Only safety-related systems will be reviewed by Project Design. No special review of non-safety-related TRPs will be made. However, Project Design will assist the Field through normal channels (i.e., FASTS, SFRs, Management feedback/direction) to support all systems, safety and non-safety related.

II. Method of Approach for Review of TRPs - Project Design's  
Objective

- Project Design will concentrate its effort on the review of stated "Test Objectives" and Test Acceptance Criteria" to ensure that System design objectives/bases are being addressed in the test procedures and TCN's.
- Project Design will review the "Disposition of Exceptions" to assure that overall design commitments have not been violated modified overlooked.

III. Procedure to be Utilized

1. Project Design will review the Test Analysis Report, Appendix D, Section I (Test Objectives) and Section III (Acceptance Criteria) and their respective annotated references to determine the true elements of the test plan.

October 27, 1983

EF2-66,235

III. Procedure to be Utilized (contd)

2. Project Design will answer questions on a checklist (to be developed) to document compliance with design bases.

Project Design shall provide notation stating it's findings that the test is acceptable

or

- Indicating recommended corrective actions to be carried out to bring the test into compliance with design criteria.

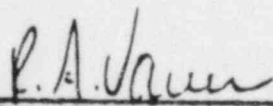
3. Project Design will review the Test Analysis Report (TAR), Appendix D, Section V (Test Exceptions - Disposition Reports) to assure that the intent developed by it's review of TRP Sections I and III has not been compromised. Project Design will provide a statement of results, which will be documented on a checklist.

IV. Documentation

Project Design will document each review by utilizing a standard "checklist" format. The format will contain the items referred to in this letter and be signed by the appropriate design discipline. Since multiple discipline reviews will occur, each discipline checklist will be combined and issued (via EF2 letter) under the Director of Project Design's signature. The letter will be addressed to the Supervisor, SUEA.

Project Design will proceed in developing the required checklists and begin reviewing the TRPs in accordance with this criteria upon your approval.

Approved for action:



R.A. Vance

Assistant Project Manager-Engineering

JWN/sp

cc: R.W. Barr  
E.R. Bosetti  
J.H. Casiglia  
P.V. DeBaeke  
L.E. Eix  
L.C. Fron

C.R. Gelletly  
R.L. Raisanen  
M.G. Sigetich  
David Spiers  
W.M. Street  
Approval Control

# PROJECT DESIGN REVIEW OF TEST RESULT PACKAGES

## SAFETY RELATED SYSTEMS

TEST  
RESULTS  
PACKAGE

TEST  
ANALYSIS  
REPORT

APPX 'D', SEC I  
"TEST OBJECTIVES"  
• REFERENCES

APPX 'D', SEC III  
"ACCEPTANCE CRITERIA"  
• REFERENCES

APPX 'D', SEC I  
"TEST EXECUTIONS"

PROJ DESIGN CHECK LIST  
for DESIGN BASIS

- ☐ ACCEPTABLE
- ☐ NOT ACCEPTABLE
  - CORRECTIVE ACTION TO  
BRING INTO COMPLIANCE

LETTER TO SUEA

- STATEMENT OF  
RESULTS
- CHECK LISTS FOR  
EACH INVOLVED DISCIPLINE



Project Design Checklist for TRP Review

TRP for PRET No.: \_\_\_\_\_

Reviewing Discipline: \_\_\_\_\_

Reviewing Date: \_\_\_\_\_

General Considerations

Yes No NA

- Was test procedure reviewed prior to testing? ☐ ☐ ☐
- Did Engineering provide or assist with test scope? ☐ ☐ ☐
- Did Engineering witness test? ☐ ☐ ☐

Consideration of Objectives and Criteria

Note: A response of "No" should be complemented with additional information in the additional comments section.

- Does test objectives address all Engineering requirements present in:

- FSAR?
- Design Calculations?
- P&ID?
- FSD?
- DI?
- Specifications?
- Design Drawings?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- Is acceptance criteria consistent with Engineering requirement?

Consideration of Disposition of Exceptions

Note: A response of "No" should be complemented with additional information in the additional comments section.

- Does Engineering agree with all dispositions of exceptions? ☐ ☐ ☐

Consideration of Disposition of Exceptions (cont'd.)

	Yes	No	NA
• Is each disposition technical acceptable?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Are changes required in Engineering documents as a result of the dispositions?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• If dispositions are unacceptable, has recommended actions or alternatives been provided?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Additional Comments

---

---

---

---

---

---

---

---

Disposition of TRP

- ☐ Accepted (Refer to additional comments section for justification relative to responses of "No".)
- ☐ Accepted with following action required:

---

---

---

---

---

---

Disposition of TRP (cont'd.)

☐ Not Accepted (The following is recommended to bring  
TRP into compliance with Engineering  
requirements.)

---

---

---

---

---

---

---

Reviewed by: \_\_\_\_\_ Date: \_\_\_\_\_ Approved by: \_\_\_\_\_ Date: \_\_\_\_\_